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Instructional Articles

Factors that Contribute to ePortfolio Persistence
Tilisa Thibodeaux, Cynthia Cummings, and Dwayne Harapnuik
1-12

Thinking Skills by Design: Using a Capstone ePortfolio to Promote Reflection, Critical Thinking, and Curriculum Integration
Cathleen Morreale, Carol Van Zile-Tamsen, Cheryl A. Emerson, and Matthew Herzog
13-28

Close Reading: Engaging and Empowering History Students Through Document Analysis on ePortfolio
Jordi Getman-Eraso and Kate Culkin
29-42

Navigating Multiple ePortfolios: Lessons Learned From a Capstone Seminar
Katie Richards-Schuster and Joseph Galura
43-52

The Use of Visual Images in Building Professional Self Identities
Jennifer Munday, Jennifer Rowley, and Patsie Polly
53-65

Building Personal Brands with Digital Storytelling ePortfolios
Beata Jones and Carrie Leverenz
67-91

Using Digital Portfolios to Develop Non-Traditional Domains in Special Education Settings
Mary Clancy and Jessica Gardner
93-100

Assessment Article

Examining the Impact of the Creation of Digital Portfolios by High School Teachers and Their Students on Teaching and Learning
Clare R. Kilbane and Natalie B. Milman
101-109
Factors that Contribute to ePortfolio Persistence

Tilisa Thibodeaux, Cynthia Cummings, and Dwayne Harapnuik
Lamar University

This study examined factors that contributed to persistent use, or discontinued use, of ePortfolios beyond the program of study, as perceived by former educational technology students in a graduate program. The related literature points to contemporary research that choice, ownership, voice, and authentic learning are growing trends emerging as persistent factors that contribute to ePortfolio learning. To research whether these elements were critical to students’ continued use of ePortfolios, a survey instrument was used that contained indicators related to choice, ownership, voice, and authentic learning. 141 former graduate students completed the survey and several students participated in semi-structured interview groups. Of the former graduate students, 17.7% of the students have continued to use their ePortfolio. Of those that are using the ePortfolio, the results of this study indicated that authentic projects, assessment of one’s own earning, receiving feedback, and management of the ePortfolio during the learning process had significant influence on the continued or discontinued use of the ePortfolio after students graduated from the educational technology program. Open-ended interviews revealed that student participants preferred to create ePortfolios that allowed them some control, ownership, and agency over the learning process in various developmental aspects of ePortfolio learning.

ePortfolios as a learning tool are gaining recognition and momentum in higher education (Bryant & Chittum, 2013; Clark & Eynon, 2009; Deneen, 2014; Lorenzo & Ittelson, 2005; Miller & Morgaine, 2009; Shroff, Trent, & Ng, 2013) and need to be recognized for their transformational power in the learning process (Batson, 2013). As such, ePortfolios have the potential to transform pedagogy in higher education because they “respond to the growing movement” (Clark & Eynon, 2009, p. 18) towards active and student-centered learning and away from the traditional didactic approach. Research indicates that ePortfolios make learning visible and encourage learners to engage in deeper, integrated learning (Eynon, Gambino, & Török, 2014). To engage in deeper learning experiences, learners must first develop a sense of control and ownership over the learning process. This is one of the greatest current challenges that education faces today (Lindgren & McDaniel, 2012). Although there have been a multitude of studies about ePortfolio learning and its usage in higher education, much of the literature has examined assessment practices and knowledge sharing. This study focused on the factors of ePortfolio persistence beyond the program of study and how this information could inform and enrich research in the field of ePortfolio learning. In addition, a learning approach is unveiled that could build a pathway for a pedagogical shift in higher education.

Related Literature

ePortfolio Learning

Lorenzo and Ittelson (2005) defined ePortfolios as digital collections of student-generated authentic content that include resources and multimedia elements contained in a personal space. ePortfolio learning encompasses the offering and exchange of ideas between learners and their audiences that helps learners to develop critical thinking skills and personal presence. In their research, Janosik and Frank (2013) recognized that ePortfolio used as a learning tool pushed learners to continually grow in their accomplishments. When implemented carefully, ePortfolio learning can make great contributions to student learning experiences (Bryant & Chittum, 2013).

ePortfolio learning has roots in andragogy and heutagogy. The term andragogy, popularized by Knowles (1985) and building on the work of educators Alexander Kapp and Eugen Rosenstock-Huessy, introduced the idea that learners who internalized the learning process focused on how they learned, took control of the learning process on their own terms, and self-regulated their learning. Heutagogy, coined by Hase and Kenyon (2013) is defined as self-determined learning that builds upon constructivism and andragogy. Heutagogy fundamentals also include learning how one learns best, using strategies such as active and reflective learning. The learning approach proposed in this study contains aspects of andragogy and heutagogy that connect to attributes of constructivism and social constructivism, all of which contribute to the ePortfolio learning experience.

Attributes of Social Constructivism

Jonassen (1994) defined constructivism as an active process in which learners construct knowledge based on their experiences. Vygotsky’s (1978) social learning theory described further how social interaction and collaboration influence the construction of knowledge. These two theories share characteristics of
social constructivism, where learning is enhanced by layers of social interaction combined with culture and context. Additionally, social environments and social contexts further enhance the learning process by allowing learners to become involved in a community of practice. Research by Carson, McClam, Frank, and Hannum (2014) supported social constructivist learner characteristics, recognizing that ePortfolios serve as tools to “elicit associations with social pedagogies” (p. 75) wherein these associations are meant to promote social learning and connectivity within a community of learners. Eynon et al. (2014) confirmed that social pedagogies are key to learner engagement. Similarly, Jonassen (1990) stated that multiple perspectives and learner attributes contribute to meaningful learning opportunities. All of this takes place in the mind of the learner (Jonassen, 1990), and growth of mind cannot be achieved within one’s own skin alone (Bruner, 1991). Bass (2014) acknowledged that ePortfolios and social pedagogies assist learners in developing a sense of agency that is critical to building experience in their chosen field. As ePortfolio learning combines with social learning and constructivist pedagogies, this relationship could have a profound impact on ePortfolio practices used for teaching and learning.

A Learner-Centered Approach

A critical understanding of ePortfolios using social constructivist principles requires a learning approach that complements the very origins of ePortfolio learning. The learning approach in the Digital Learning and Leading (DLL) program was designed with learner-centered principles that enable a shift of control and ownership of the learning process to the learner and away from the instructor. Researchers recognize this approach as a component of a self-regulated personal learning environment where learners exercise control over the selection of tools and resources that will be gathered and disseminated through choice of content and learning tools (Buchem, 2012; Buchem, Tur, & Höltnerhof, 2014; Sheperd & Skrabut, 2011). Drawing upon Dewey’s (1910) theory that reflection within the learning community deepens and complements learning, Nguyen and Ikeda (2015) acknowledge that ePortfolios can enhance the self-regulated learning process. As such, ePortfolios were acknowledged as the eleventh high-impact practice in the field of education (Center for Engaged Learning, 2016). To create such an experience for learners, Eynon et al. (2014) proposed that “the most powerful ePortfolio practice is inherently connective and integrative” (p. 8) when combined with other high-impact learning practices. Since ePortfolio practice is inherently eclectic, it deserves an equally eclectic learning foundation. In the DLL program, we developed the COVA (choice, ownership, voice, and authenticity) learning approach to give our learners the freedom to choose (C) how they wish to organize, structure and present their experiences and evidences of learning. We give them ownership (O) over the selection of their authentic projects and the entire ePortfolio process—including selection of their portfolio tools. We use the ePortfolio experiences to give our learners the opportunity to use their own voice (V) to revise and restructure their work and ideas. Finally, we use authentic (A) or real world learning experiences that enable students to make a difference in their own learning environments (Harapnuik, 2016).

Subsequent paragraphs address the related literature that pertain to ePortfolio learning and the elements necessary for a learner-centered approach. We will refer to learner-centered ideas as the COVA learning approach.

Learner Choice in the Learning Environment

The first identified component of the COVA learning approach is learner choice in the learning environment. Learner choice in the development of ePortfolios is essential to the learner experience. Choice allows the personalized learning that learners require (Bolliger & Shepard, 2010). Learning is personal when learners can adapt or develop learning goals and choose learning tools that supports the learning process (Buchem et al., 2014). When learners choose to participate in learning activities, the engagement factor in ePortfolio increases (Shroff et al., 2013), thus facilitating lifelong learning through an open-ended personal learning environment that the learner establishes (Sheperd & Skrabut, 2011).

Deneen (2014) examined key variables that impacted ePortfolio usage in higher education, using ePortfolio platforms as assessments for learning in higher education. Two ePortfolio platforms, Mahara and Wordpress, were compared across 450 students and nine instructors. Findings indicated that learners who used Mahara found a steeper learning curve than expected, resulting in negative impressions of the chosen platform. In another course, findings from learners that selected Wordpress resulted in continuous engagement and positive perceptions of the experience. The results of this study substantiate why choice of the learning tools is necessary to promote a positive ePortfolio learning environment.
Clark and Eynon (2009) raise the point that too many standardized ePortfolio platforms take the ownership and responsibility from the learner. In doing so, student choice is limited, and the pedagogical goals of the learning process are pre-determined and limited; therefore, learner reflection and engagement are negatively impacted (Bryant & Chittum, 2013). To point to one example of this problem, students in an undergraduate program at Clemson University expressed the desire for more flexibility in their ePortfolio platform choice and design. As an outcome of the ePortfolio initiative, faculty members would be reviewing student evidence of learning, so students wanted choice in how they shared their story (Ring & Ramirez, 2012).

Learner Ownership and Agency

Ownership and agency comprise the second essential part of the proposed learning approach. Shroff et al. (2013) examined factors that influenced student and teachers’ attitudes toward value, control, and responsibility of their own learning using ePortfolios. Findings of 77 participants’ attitudes toward learning revealed that personal responsibility increased their role as stakeholders in their own education. This is the point at which ePortfolio learning was recognized as promoting ownership of the learning process.

At LaGuardia Community College, students control all aspects of the ePortfolio process from visual appearance to critical thinking and collaboration. In comparison to learners without an ePortfolio, LaGuardia Community College found that students using ePortfolios showed higher degrees of engagement than those without an ePortfolio (Clark & Eynon, 2009). Miller and Morgaine (2009) found that learners do not automatically assume the role of responsibility for their own learning; their belief systems indicate that the teacher is responsible. Student ownership of learning cannot be assumed; learners must be “courted as investors” in their own learning so they learn to take control over the learning process itself (Shroff, Deneen, & Lim, 2014, p. 87).

ePortfolio fosters critical thinking and self-regulation of learning. Self-regulated learning using ePortfolios contributes to an increase in motivation and learning strategies. As a result, learners accept more responsibility and ownership of their learning (Nguyen & Ikeda, 2015). Buchem et al. (2014) studied personal learning environments in which learners use technology for learning to build autonomy and self-regulated learning strategies. In this study, the assumption was that the learning environment becomes personalized when learners perceive that all aspects of the learning and environment were controlled by the learner. A comparison of the impact of tangible and intangible elements of the learning environment were considered. Nontangible elements included control of the content and information. Tangible elements included tools to develop the learning environment itself. The results of this study indicated that the ability to control the environment was more strongly related to ownership of the learning experience. The perception of the learner is tied directly to feelings of ownership, although learners may not completely control all elements of the learning environment. Ownership of learning was tied directly to agency when learners make choices and “impose those choices on the world” (Buchem et al., 2014, p. 20; Buchem, Attwell, & Torres, 2011).

Ownership and agency are critical components for learning (Buchem et al., 2014). Lindgren and McDaniel (2012) compared the student engagement and learning of 96 students enrolled in a course that contained elements of student narrative and agency with 129 students in a traditional course. The group of 96 students were given the option to choose course content that related directly to their own personal interests. Learner engagement surveys and perceptions indicated that learner agency impacted the learning process and learner engagement and also added to the expected learning outcomes. Ninety-one percent of the learners indicated an extremely positive or mostly positive learning experience. The findings of this study indicated that student agency aided student learning and promoted student engagement.

Reflective Voice in the Learning Process

Reflective voice in the learning process is the third component of the COVA learning approach. As part of the Connect to Learning framework at LaGuardia Community College (CUNY), ePortfolios that help learners connect with others through inquiry and integration are part of a much larger learning framework that involves learner engagement (Eynon et al., 2014). Bass (2014) identified that in the Connect to Learning Catalyst Model, social pedagogies are the main ingredient in making learning visible. At the core of making learning visible, Bass acknowledged three key practices learners must be involved with: constructing understanding, communicating understanding, and authentic audiences. Bass (2014) posited that learners need to engage in the learning process and share their knowledge publicly with people other than the course instructor and by doing this, learners can achieve broader student learning outcomes such as deepened understanding, learned flexibility of knowledge, “voice and a sense of purpose” (p. 3), accepting and sharing feedback, and a sense of personal significance. These learner-centered ideas are part of the key principles in which the COVA approach relies most heavily.

Landis, Scott, and Kahn (2015) examined specifically the role of reflection in ePortfolio learning and identified strategies instructors could use to foster
learner reflection in ePortfolio learning across all levels and fields. Such practices include explanation and advocacy, demonstration, assignments, social pedagogies, and formative assessment. The role of reflection was valued, but it was not the single most important aspect of using an ePortfolio. The study findings indicated that learners in advanced levels preferred a less prescriptive agenda and when given such freedom, they also desired long-term significant control of their learning process (Landis et al., 2015). Additionally, instructors found that reflection helped learners build metacognition and draw connections between the content and the learning outcomes. The COVA learning approach shares some of the same attributes as these principles.

Waycott, Sheard, Thompson, and Clerchan (2013) examined the perceived advantages and disadvantages of posting and sharing student work on the internet. The perceptions of 20 Australian instructors indicated that opportunities were abundant when making learning visible in areas such as collaboration, communication, and community building for students. Another key finding indicated that communities of students who built a collaborative atmosphere were inhibited by university standards and regulations for assessment of student work (Waycott et al., 2013).

Research shows that learning in high agency learning environments becomes highly visible because learners can examine and reflect on their own learning as they curate their body of work over time (Eynon et al., 2014). For example, the resident trainees at the University of Michigan Medical School use ePortfolios as a tool to record their thoughts, reflect upon situations, and analyze daily occurrences throughout their training. Spelman College used ePortfolios in the seminar courses for authentic assessment, not tied to any specific course, allowing for learners to continuously evaluate their own assignments demonstrating growth over time (Rhodes, 2011). In another graduate program, students recognized that reflective dispositions took a great amount of time and effort but also allowed them to see holistically the bigger picture. As a result, learners were better able to articulate their learning experiences and understand how they had learned (Janosik & Frank, 2013). Similarly, in an undergraduate program, ePortfolios support learner reflection as learners work to curate and tailor information added to their ePortfolios, synthesizing their own work to tell their own stories (Ring & Ramirez, 2012).

According to the Association of American Colleges and Universities (2009), ePortfolios provide a portable and transparent medium for learners to demonstrate what they have learned, allowing learners opportunities to reflect on the progress of their work (Miller & Morgaine, 2009). Furthermore, learners reported the need for ePortfolio portability to continue their work beyond the program of study (Ring & Ramirez, 2012).

**Authentic and Deep Learning Experiences**

The final component weaved into the learner-centered approach is authentic and deep learning opportunities. In the future, learners will need multi-modal approaches and opportunities to communicate effectively with their organizations and for group or social networking projects (Rhodes, 2011). For this reason, learners should be allowed to showcase their ePortfolios to authentic, external audiences, including peers and learning networks for feedback and collaborative work (Bass, 2014). Concomitantly, learners make their work accessible to others, providing transparency to resources that can be reviewed by other learners as a tool to improve their own work. Literature supports the pedagogical purpose of social technologies for use in a learning environment that allows for learners to partake in genuine communication and peer-to-peer collaboration. The very nature of ePortfolio learning enables learners to create personalized ePortfolios that are authentic, giving them opportunity to create and publish their own work, which highly individualizes the ePortfolio learning experience (Jones, Downs, & Jenkins, 2015).

O’Keeffe and Donnelly (2013) conducted a study that depicted the effect that ePortfolio learning had on augmenting student learning opportunities. The pedagogical impact of ePortfolio learning results in deeper learning when learners reflect and evaluate the claims made by others, build their own learning experiences, and apply their newly acquired knowledge to authentic settings (O’Keeffe & Donnelly, 2013; Penny Light, Chen, & Ittleson, 2012; Ring & Ramirez, 2012). Learners also reported the need for support to continue the freedom of authentic learning with peer support groups (O’Keeffe & Donnelly, 2013). Janosik and Frank (2013) conducted a study in which participants responded to several interview questions about their experiences and challenges with ePortfolio learning through focus groups and interviews. Themes such as aptitude for change, time for reflection and decision-making, affirmation, and the development of metacognitive skills made ePortfolio learning in higher education a valuable experience (Janosik & Frank, 2013).

Bolliger and Shepard (2010) examined student perceptions of ePortfolio integration in online courses. Student perceptions of communication, connectedness, value, and perceived learning were examined. Key findings further support that most participants found ePortfolio learning to be a positive impact on their learning, also increasing their desire to learn (Bolliger & Shepard, 2010). Through communication within the ePortfolio learning environment, learners are more likely to identify
gaps in their own understanding, clarify information and challenge assumptions posed by others.

**ePortfolio and our Research Focus**

Our research led us to first find out why learners continued or discontinued use of the ePortfolio beyond their program of study. It was necessary to identify students’ perceptions of the ePortfolio experience in their previous master’s program so we could gauge their experience with elements of learner choice, ownership and agency, voice, and authentic learning experiences. The COVA learning approach provides a functional foundation for the DLL Program at Lamar University. In this program, learners develop authentic innovation plans that impact their own organizational learning environments. These authentic projects along with the ePortfolio and the COVA approach are consistent foundational elements that unite all courses within the program. With ties to pedagogy, andragogy, and heutagogy, this learning approach enables deep and meaningful learning through authentic learning opportunities. Learners take ownership of the learning process, and their choices are reflected in their voice as they share and promote their authentic work within their own program and workplace and to colleagues and learning communities. Their ePortfolios not only provide a location to host their media, authentic plans, and reflections, but they also become the digital staging points for the learning innovations that they are developing in their learning environments. The COVA approach has enabled us to give responsibility and accountability back to the learner and combine and utilize fundamental constructivist principles that are supported by the research.

**Research Purpose and Question**

According to Penny Light et al. (2012), one recognized aspect of ePortfolios in education is the ability for students to document the development of skills, ideas, and abilities enabling learner-centered control of the learning process. If ePortfolios are a such a good tool, why are students discontinuing their use beyond the academic environment (Batson, 2016)? The purpose of this mixed methods study was to examine the persistent use of ePortfolios or discontinued use of ePortfolio beyond the program of study. The significance of this study derived from the assumption that too many students may not continue to use ePortfolios after they graduate from their program. This idea led us to determine the reasons behind those decisions. The current master’s degree program uses ePortfolios as the platform in which evidence of learning is presented and shared with the learners’ community. The researchers determined that investigating the factors that contributed to persistent ePortfolio use would add to ePortfolio scholarship in the field. The research question that guided this study is: Which factors contributed to the persistent use of, or discontinued use, of ePortfolios beyond the program of study?

**Method**

The study used a convergent parallel, mixed-methods design in which quantitative data was obtained through Likert scale items and qualitative data was gathered through open-ended questions. The mixed methods research design allows for collection of both quantitative and qualitative data that is analyzed and compared to determine if each data set supports or contradicts the other and to explain any discrepancies (Creswell, 2015). The survey instrument contained two Likert-scale questions. Semi-structured focus group interviews contained three open-ended questions eliciting open-ended and candid responses. Both quantitative and qualitative data were collected and the data were analyzed to better provide an assessment of graduates’ persistent use of factors that contributed to ePortfolio use after completion of their master’s degree program while considering factors that contributed to discontinued use of ePortfolios.

**Participants**

The population for this convergent mixed methods research study was comprised of 533 graduates of an online educational technology leadership (ETL) master’s degree program. The ETL program was, and is currently, an 18-month program. All of the graduates were employed in PK-12 school settings throughout the duration of the program. Students were invited to participate in the study approximately 3-5 years after graduation. A mixture of male and female participants of all ages were invited to participate if they were educational technology graduates and developed an ePortfolio as part of their course of study. Of the 141 respondents, 18.5% or 26 were male and 81.5% or 115 were female. The timeline for conducting the survey and the focus group interviews spanned over a 2-month period.

The graduates created their ePortfolio in the first of 12 courses and utilized it throughout all of the courses in the master’s degree program. Students used ePortfolios as a learning tool to post their evidence of learning from various courses. Examples could take the form of posting a powerpoint for peer review, a blog posting for discussion, or an authentic assignment. Students in the ETL program were given a choice as to which free ePortfolio platform they could use. Students selected open source platforms such as Google Sites, Wordpress, Weebly, and any others that were available. Students were able to select a blogging platform if the
platform allowed them to contribute, just as an ePortfolio would. A specific platform tied to a learning management system was not available in this program. ETL students were required to post evidence of learning from the courses that demonstrated how ePortfolio learning contributed to: (a) more rigorous reflective practice for the master’s students; (b) the transference of ePortfolio learning with PK-12 students; and (c) the use of differentiated assessment for PK-12 students. The ePortfolio was a graduation requirement in the final course of the ETL program. The capstone course, where all evidence of learning was posted, was monitored by students, professors, instructional associates, and stakeholders that consistently held students accountable for posting their work. In addition, the ETL students were encouraged to contribute to their ePortfolios beyond their program of study by continuing to add blog posts, content, and other information that was important to them.

Instrument

The preliminary question in the online survey asked: (a) Are you using or not using your ePortfolio? If participants confirmed, the quantitative sub-questions were asked: (b) What factors contributed to your continued use of your ePortfolio? and, (c) What factors contributed to your discontinued use of your ePortfolio? Sub-questions were set up in a Likert scale format ranging from strongly disagree to strongly agree and not applicable. These questions were sent to all educational technology graduate students to determine which indicators contributed to their use of ePortfolios and to identify factors that did not. The factors listed in Table 2 were considered important in finding out why students continued, or did not continue, to use their ePortfolio in a meaningful way after graduation. The degree of agreement with the Likert scale items in this study indicated whether the participants perceived the factors indicated as a contributing factor, or a non-contributing factor, to their continued ePortfolio persistence.

In addition to the survey, the following qualitative questions were asked during the focus group interviews for those that indicated they would be willing to participate in a semi-structured interview: (a) What are the top three factors that contributed to your continued use of the ePortfolio? (b) What are the top three factors that contributed to your discontinued use of the ePortfolio? (c) What could be done to heighten or improve your interest in ePortfolios? (d) Students who continued to use ePortfolios saw the value in the ePortfolio as a career tool. What are the most important things that can be done to help you recognize the value of ePortfolios? (e) Students who continued to use ePortfolios appreciate the value of authentic assessments. Finally, (f) what are the most important things that can be done to help you appreciate the value of authentic assessments?

Data Collection

All former educational technology graduates were invited to participate in a web-based survey created in SurveyMonkey that was distributed through e-mail. The survey was sent out a total of three times with each survey going out at least 2 weeks apart to elicit responses from a large group of participants to allow for generalization of the study findings. Of the 533 invited participants, 141 graduates completed the survey. Approximately eight participants volunteered to be part of the two semi-structured focus group interviews conducted after the survey. The purpose of the both sets of data was to determine if the two data sets converged or contradicted one another.

Data Analysis

Data from the survey were coded into rating averages for the top five indicators that were consistent with persistent use of ePortfolios. Likewise, data were also coded into rating averages for the top five indicators that were consistent with discontinued use of ePortfolios beyond the program of study. Data was cross-checked for accuracy by the research team. All interviews were transcribed and reviewed for errors by the research committee. Trends and topics shared by the participants were related to the persistent use, or discontinued use, of ePortfolios.

Reliability, Validity, and Transferability

To assure validity of the instrument used, experts in the field were asked to confirm the questions asked were appropriate and clearly articulated to accrue the information collected. This group of experts piloted the survey in a different test survey to ensure that the instrument worked as intended. To establish reliability, several participants that were representative of the target population of students confirmed that the questions asked in the survey were consistent (Creswell, 2015). Transcriptions and data were reviewed for similarities and differences. Findings of this study are written in such a way that each finding will inform the field of ePortfolio practitioners to make informed decisions about the future of ePortfolio learning in higher education.

Results

The online survey and open-ended questions were completed by 141 of the 533 (26%) possible participants.
Table 1 shows the response percent and count for the number of participants that have continued or discontinued their ePortfolios beyond their graduate program. Table 2 shows the indicators with the highest rankings that pertained to continued use or discontinued use of ePortfolios beyond the program of study. Participants were invited to two semi-structured focus group interviews conducted to investigate student values and interest in ePortfolios. Before the focus group interviews occurred, the team of researchers debriefed the participants on the data from the survey results.

Factors that Related to Continued Use

Data from this study suggested that students involved in ePortfolio learning could benefit from authentic learning experiences. Overall, participants indicated that real world projects and authentic artifacts were the top reasons for continuing the development of their ePortfolios. Very close in proximity came ePortfolio learning used as a career tool. In the first focus group interviews, one of the researchers asked how important authentic assessments were to the group of students in which they represented. In response to this question, one member of the focus group stated,

When [ePortfolio] became less about me . . . and more being about sharing with other people and collaborating and being able to have certain people view things and all the capabilities my google site had, that’s when [ePortfolio] became more relevant to me and the light bulb came on.

Table 1
Graduate Students Responses for Continued/Discontinued Use of ePortfolio

<table>
<thead>
<tr>
<th>Answer option</th>
<th>Response percent</th>
<th>Response count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>17.7%</td>
<td>25</td>
</tr>
<tr>
<td>No</td>
<td>82.3%</td>
<td>116</td>
</tr>
</tbody>
</table>

Table 2
Graduate Students’ Mean Averages for Continued/Discontinued Use of ePortfolio

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Continued use</th>
<th>Discontinued use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice of ePortfolio tool/platform</td>
<td>3.48</td>
<td>3.28 (4)</td>
</tr>
<tr>
<td>Control over the ePortfolio tool</td>
<td>3.56</td>
<td>3.21</td>
</tr>
<tr>
<td>Choice over evidence of learning (artifacts)</td>
<td>3.72</td>
<td>2.99</td>
</tr>
<tr>
<td>Control over the ePortfolio development process</td>
<td>3.60</td>
<td>3.06</td>
</tr>
<tr>
<td>Opportunity to be creative with ePortfolio presentation and development</td>
<td>3.52</td>
<td>3.30</td>
</tr>
<tr>
<td>Real world projects and authentic artifacts</td>
<td>3.84 (2)</td>
<td>3.14</td>
</tr>
<tr>
<td>Management of ePortfolio</td>
<td>3.76 (4)</td>
<td>3.47 (2) (3)</td>
</tr>
<tr>
<td>Proprietary software availability after the program</td>
<td>3.64</td>
<td>3.24 (5)</td>
</tr>
<tr>
<td>Assessment of own learning</td>
<td>3.79 (3)</td>
<td>2.90</td>
</tr>
<tr>
<td>Deepened my interest in learning more</td>
<td>3.72</td>
<td>2.60</td>
</tr>
<tr>
<td>Access to good examples of ePortfolios</td>
<td>3.72</td>
<td>2.96</td>
</tr>
<tr>
<td>My instructor’s ePortfolio example</td>
<td>3.65</td>
<td>2.74</td>
</tr>
<tr>
<td>Receiving feedback and comments</td>
<td>3.75 (5)</td>
<td>2.96</td>
</tr>
<tr>
<td>Community or social connections in ePortfolio use</td>
<td>3.54</td>
<td>2.98</td>
</tr>
<tr>
<td>Personal interest level in ePortfolio use</td>
<td>3.68</td>
<td>3.47 (2) (3)</td>
</tr>
<tr>
<td>Discussion about lifelong use of the ePortfolio</td>
<td>3.60</td>
<td>2.95</td>
</tr>
<tr>
<td>School’s or institution’s attitude toward ePortfolio use</td>
<td>3.60</td>
<td>2.99</td>
</tr>
<tr>
<td>Used as a career tool</td>
<td>3.88 (1)</td>
<td>2.77</td>
</tr>
<tr>
<td>Planning</td>
<td>3.70</td>
<td>3.17</td>
</tr>
<tr>
<td>Time</td>
<td>3.65</td>
<td>3.50 (1)</td>
</tr>
</tbody>
</table>

*Note.* Bolded numbers are in the top five rating averages for the indicator. The number in parenthesis indicates the place of the indicator in the top five from highest rating average to lowest rating average within the top five indicators. Likert scale items ranged from 1 (strongly disagree) to 6 (strongly agree), with 0 (not applicable).
In the second focus group, one respondent shared that the ePortfolio learning felt authentic to the specific course work, but not to the personal career. This respondent was given a choice of platform, but none of the platforms were discussed in detail, so she did not search any further and defaulted to the platform shared in the program.

Data from this study revealed that ePortfolios may provide students with a medium for choice and voice in the learning process. Management of content and assessment of one’s own learning were the key indicators that represented choice and voice in the survey. Data from this study suggested that choice of ePortfolio platform is necessary to contribute to continued use of ePortfolios. Respondents to the survey referred to ownership of the ePortfolio as follows: “Because it is yours, you are initiating everything that is going on here but you also allow others to share their thoughts and idea.” One respondent shared that students need to be aware that they are “in charge of their brand” and “their brand is very important if they are going to pursue careers in educational technology.”

Data showed that feedback and comments were of value to students in the ePortfolio process. While participants did not mention feedback specifically, several participants mentioned that an example would have been helpful. Although instructor’s example and access to good examples did not make it into the top five reasons that students continued or discontinued to use ePortfolios, many of the participants recollected that “It would have absolutely helped me out to see examples” and “It would have greatly been helpful to see other examples.”

Factors that Related to Discontinued Use

The primary factor that related to discontinued use of ePortfolios was time; management and personal interest tied for second and, the third factor was choice of the ePortfolio tool. One participant openly stated that, “Time was a big factor for me.” Another participant stated that her ePortfolio was what she was “doing to satisfy the assignment” where she indicated that she felt the connection to her classroom career was irrelevant. On the contrary, another participant stated that “when I started the ePortfolio for the coursework, I didn’t really see it as that valuable. I realized what it could become.”

The data suggested that personal interest levels in ePortfolios contributed to discontinued use of ePortfolios. This finding is parallel to participants’ responses to the open-ended interviews. One participant indicated that no ideas were shared about how the ePortfolio could be used after the program. Another participant indicated that students need to be given some direction about how this applies to their lives after they graduate.

Limited choice and proprietary software were indicated as the third and fourth highest rated factors contributing to the discontinuing the ePortfolio. One participant stated that if ePortfolios were not properly curated, they would be similar to “those 20-page vitae where no one gets past the first paragraph.” The same participant stated that the ePortfolio is not going to be this “static thing that’s going to exist and solve all of their problems”; rather, it needs to be authentic with curated aspects of the ePortfolio. It was clear that some participants did not fully understand the difference between ePortfolios and the software because one respondent stated that she did not have an ePortfolio, but she did have a Wordpress site.

Discussion

The findings from the study suggest that if learners were provided learning conditions in which they had considerable choice over the learning process, combined with elements of voice, authenticity, and ownership of the process, then ePortfolios could be an invaluable tool and a resource used beyond the program of study. With only 17.7% of students using the ePortfolio beyond the program of study, we can be certain that something can be done to increase ePortfolio use.

Initially, participants did not see the value in building an ePortfolio; the ePortfolio was seen as a course requirement only. One participant indicated that no one shared ideas about how the ePortfolio could be used after the program, although others mentioned the contrary. This finding is important because it confirms that interest level in ePortfolio learning can be connected to how students might use ePortfolios beyond their program. Another participant indicated that students need to be given some direction about how ePortfolios apply to their lives after they graduate, urging that students struggle with the value of ePortfolios. This finding is important because it confirms that lower interest levels in ePortfolios could influence whether students continue to use ePortfolios beyond their program of study. One could assume that if students do not see the value of ePortfolio in the beginning of their degree program, it could hinder their interest level throughout the program. Decreased interest levels could also be a result of an unintentional perception that they have little ownership and autonomy in the developmental aspect of the ePortfolio.

Another finding points to ePortfolios as a valuable tool for students in online programs; however, not all learners reported positive experiences. Learning environments necessitate a design and balance that incorporates personal learning attributes (Bolliger & Sheperd, 2010). Concurrent findings that coincide with
this study suggest that learners agree that expanding the choice of an ePortfolio platform would allow students to focus on their own strengths and creativity. The learning environment could be impacted by faculty guidance and frequent meetings with extended support (Janosik & Frank, 2013).

Our findings revealed the unique feature that management of the ePortfolio produced ratings in the top five for both continued and discontinued use. Could management of ePortfolios be enough to cause a halt in persistence because management takes away from the value of ePortfolio learning? It is also evident that students desire more control over the process, so instructors may wish to introduce learners to using the ePortfolios as a “catalyst” for reflection (Janosik & Frank, 2013, p. 94).

In summary, if ePortfolios are utilized effectively, they can provide a vehicle for deeper learning and meaningful engagement opportunities. Furthermore, ePortfolio learning promotes social pedagogy by paving a pathway that leads to learner reflection and social pedagogies while enhancing institutional change (Eynon et al., 2014). This is very important because employers want to see how learners solve unscripted problems and apply their learning to authentic situations (Rhodes, 2011). When combined with other high impact practices, ePortfolio learners engage in higher order thinking and interconnected learning (Eynon et al., 2014). The results of this study suggest that ePortfolio learning has the potential to dynamically shift from knowledge-bearing repositories and assessment options to an interactive learning tool that promotes learner-centered principles, collaboration, and social constructivism. Further research and a replication of the study could substantiate or dispute the findings generated from this study.

**Limitations**

As noted in the Methodology section, all former educational technology graduates that used an ePortfolio as part of their graduate program were invited to participate in the study. Of the contact emails provided, there was no way to account for the number of students the survey reached. Since the survey did not reach every student, the results of the survey and interview questions call for further investigation.

Specific demographic information such as years of experience and current job positions were not requested for the preliminary study. This information could have provided some further information to investigate if individuals with varying demographics had similar perceptions. To offset this imbalance, we decided to use a mixed methods design to substantiate and reciprocate any statistical data from this study.

**Implications for Future Research**

There are several findings from this study that are ripe for future research opportunities. The current study does not describe a precise explication between each of the elements in the learning approach. For example, learner attitudes toward ownership and learner responsibility could provide additional information about student motivation to learn (Shroff et al., 2014). Furthermore, there could be unrecognized consequential effects when learners are given choice and agency of the learning process beyond expectations (Lindgren & McDaniel, 2012)? Additional qualitative data that considers student perceptions of specific aspects of the COVA learning approach might provide some insight into the exclusive relationships between the elements proposed in this study.

As described in this study, ownership and responsibility for one’s learning, as it relates to ePortfolios, could play a much larger role than is generally recognized in the literature. In contrast, for learners that engage willingly without any prerequisite of an ideal such as ownership, research needs to be conducted to determine the level at which the learning curve could become too steep (Shroff et al., 2014). Further research into ePortfolio learning could explore student perceptions of learner choice, ownership, voice, and authenticity in the learning process itself. Ultimately, the COVA learning approach could be used to evaluate which aspects of the approach contribute extensively to “significant learning environments” (Harapnuik, 2016, para.1). To extend this further and relate it back to the findings of this study, what relationship does the learner’s perception of the ePortfolio’s value impact the “essential facet of ownership of learning” (Shroff et al., 2013, p. 154).

The current state of ePortfolio research encompasses methods of assessment, student engagement, reflective ability, knowledge attainment, and critical thinking, to name a few (Bryant & Chittum, 2013). Further questions about transparency of ideas using ePortfolios could be a follow-up to this study. For example, to what degree do students feel vulnerable in sharing their personal ideas during the peer review process that many courses employ (Jones et al., 2015)? The findings of this study contribute to current research on ePortfolio learning and its impact on the learning process, where the findings could be shared across disciplines.

**Conclusion**

While factors that contribute to ePortfolio persistence are certainly important in the ePortfolio process, there is a much larger conceptual framework that contributes to the power and impact of ePortfolio.
Our current program prompted us to first understand student perceptions about which aspects were important to them in the creation of ePortfolios. Based on the survey and focus group interviews, students revealed factors that contributed to persistent use, and discontinued use, of ePortfolios beyond their program of study. While these factors could not be predicted with certainty, our research and findings remind us that ePortfolio learning is a high impact practice, but has many areas that are yet to be explored. Choice, ownership, voice, and authenticity, as in the COVA learning approach, could be the linking factors that contribute to persistent use of ePortfolios beyond the program of study. Student perceptions of the COVA learning approach and its implications for the field of ePortfolio will be the focus of subsequent research.

References


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Thinking Skills by Design: Using a Capstone ePortfolio to Promote Reflection, Critical Thinking, and Curriculum Integration

Cathleen Morreale, Carol Van Zile-Tamsen, Cheryl A. Emerson, and Matthew Herzog

University at Buffalo

A capstone ePortfolio is a digital space where students can gather and integrate their learning experiences from their undergraduate careers into a meaningful whole, demonstrate their growth as learners, and connect their learning to the world. The process of creating a capstone ePortfolio equips students with the digital composition skills necessary for creating a professional career ePortfolio, helping them to showcase their strengths for future employment and for graduate or professional school applications. This project piloted an undergraduate capstone ePortfolio program designed to be the culminating experience for juniors upon completion of the general education program (i.e., core curriculum). Pilot program results, based on a group of 18 students from a variety of academic and demographic backgrounds, suggest that the capstone ePortfolio program can serve as a vehicle for promoting reflection, critical thinking, digital literacy and composition, and integration of curricular experiences. This article presents the results of a mixed-method assessment of the pilot and discusses how these results will be used to frame the semester-long capstone ePortfolio program for the undergraduate general education program at a large AAU research institution.

This article describes pilot work for a capstone course, requiring a culminating ePortfolio, within the undergraduate general education curriculum (i.e., core curriculum) of a large AAU research institution in the northeast United States. Although many examples of the use of ePortfolios as educationally purposeful culminating learning experiences in academic majors can be found (Cambridge, 2010; National Survey of Student Engagement, 2011), the capstone course and ePortfolio described here are required for all undergraduate students in their junior year as part of the newly launched general education program (GEP), including transfer students with significant credits of general education completed elsewhere. Due to the scale of implementation and the significant impact this new course will have on requirements for degree completion, a pilot was conducted to assess practical aspects of course delivery, as well as the ability of the course content to help students achieve the desired learning outcomes of the course and of the general education program. The new GEP, launching in fall 2016 with new and re-designed course offerings, is based on the curricular components of American Association of Colleges & University’s (AAC&U) Liberal Education and America’s Promise (LEAP) initiative, developed to prepare students in broad thinking and communication skills and emphasizing integrative learning (AAC&U, 2011).

It also may be the first of its kind to incorporate several high-impact educational practices as a purposeful, integrated package to improve student persistence (Carini, Kuh, & Klein, 2006; Kuh, 2008; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; NSSE, 2007; Pascarella & Terenzini, 2005).

This revised GEP is designed to help students learn transferable higher-order thinking skills that will serve them well in educational and career endeavors. It includes: critical thinking, integrative learning, quantitative reasoning, scientific reasoning, ethical reasoning, communication skills, and digital citizenship.

The learning outcomes of the program include the following: Through completion of the general education curriculum, students will

1. attain and apply knowledge in written, oral, and visual communication; mathematics and quantitative reasoning; and natural sciences;
2. acquire, apply, analyze, evaluate, and integrate knowledge from a wide range of disciplines;
3. attain and apply critical thinking skills to define and solve problems;
4. demonstrate an understanding of human and cultural diversity within local and global contexts;
5. acquire the skills, technologies, knowledge, ethical judgment, and personal responsibility for effective citizenship, professional leadership, and lifelong learning.

The goal of the general education capstone and the required ePortfolio is to provide a mechanism through which students can critically review content from disparate general education classes and make connections across them, integrating their work to make broader knowledge connections that can be more easily leveraged and applied in new learning situations (Hauhart & Grahe, 2014; Kinzie, 2013; Mentkowski & Sharkey, 2011). Specifically, reflection within the ePortfolio allows students to consider how they have been successful in their learning and how learning in the present situation relates to other contexts (Buyarski et al., 2015). From this reflection, they gain practice in
metacognitive thinking, which they can use to help them self-regulate learning processes in future learning situations (Flavell, 1979; Livingston, 2003). The process of reflecting on learning in general education and integrating content from across general education courses increases the likelihood that students will transfer knowledge and skills gained to study in the major and to life outside the classroom (Mentkowski & Sharkey, 2011). Further, it raises the level of importance of the GEP by not allowing it to be something that students can just forget about as they check off courses, but as an experience on which to reflect (Mummalaneni, 2014). This cultivates the realization that it has inherent value for them in later studies and in their lives after college (Eccles & Wigfield, 2002; Kinzie, 2013; Kruger, Holtzman, & Dagavarian, 2013; Wigfield & Eccles, 2000).

The Capstone ePortfolio Pilot as a Learning Experience

A pilot was needed to ensure that the students in this newly revised GEP view the culminating ePortfolio and the capstone course itself as a meaningful part of their educational experience, where students could apply “higher-order thinking, authentic learning, and multilayered decision-making while engaged in an experiential learning activity” (Buzzetto-More, 2013, p. 1), and bring a “holistic understanding to students’ educational journeys” (Kinzie, 2013, para. 2). A six-week mini-capstone was proposed. In alignment with the generally recognized purposes of capstones (Kinzie, 2013) and the use of reflective ePortfolios (Cambridge, Cambridge, & Yancey, 2009; Eynon & Gambino, 2016), the design of the pilot was meant to simulate the conditions of a real capstone course and to assess the ability of the online course design, as represented in the capstone syllabus (Appendix A): (1) to engage students in the capstone experience and promote their perceptions of this experience as meaningful to their educations; (2) to promote the achievement of the identified capstone learning outcomes (see Table 1); and (3) to be feasibly implemented across large numbers of students from disparate disciplines, including students transferring in general education coursework from other institutions.

In the pilot, students were required to complete three tasks:

1. upload examples of prior course work to demonstrate the achievement of learning outcomes of each component of the general education curriculum into their ePortfolios;
2. complete one essay in which they reflected on the connections and meaningful integrations of their general education coursework and their intended field of study, outlining their understanding of general education course topics and how these topics contributed to a deeper understanding of their intended major; and
3. summarize the larger impact of the general education curriculum on their intellectual development during their time at the university delivered via the ePortfolio tool.

This pilot project was designed to determine the extent to which the Capstone ePortfolio experience, in practice, will promote student reflection, critical thinking, and curriculum integration and provide a meaningful learning experience for all undergraduate students, all of which are found in the literature of both ePortfolios and capstones to be productive outcomes of such an educational experience (e.g., Eynon & Gambino, 2016; Gardner & Van Der Veer, 1998; McGill, 2012; National Survey of Student Engagement, 2007). In addition, the capstone provided an opportunity for assessment of the GEP (Berheide, 2007). Artifacts for reflection and inclusion in the ePortfolio were chosen by students, in consultations with instructors. Not all artifacts were required to address every component of the general education curriculum, though all artifacts should address some component of the general education curriculum.

Method

Institutional Context and Participants

This pilot program was conducted in a large public Research I institution in the Northeastern United States. The institution will transition to the new GEP, described above, in the fall of 2016 with the pilot capstone program conducted in the spring semester prior to the program launch. The shortened capstone ran for six weeks during the midpoint of the semester as a hybrid course (hybrid to provide additional feedback opportunities in the development stage), with face-to-face opportunities for student engagement, peer support groups, and feedback loops. (The actual capstone will be conducted solely online as proposed in the GEP and to meet capacity needs.) Students participated in the program voluntarily through a proprietary product, the platform being both the course and the vehicle by which they created and hosted their ePortfolios. Although the pilot students had not participated in the new GEP, the pilot was adapted to allow for their own GEP to be incorporated into the new framework.

The study personnel included two doctoral-level teaching assistants and two administration assessment staff. Capstone instruction and course management responsibilities were handled by the teaching assistants, while the administrative assessment staff was
Table 1

<table>
<thead>
<tr>
<th>No.</th>
<th>Capstone Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO 1</td>
<td>Adapt and apply skills, abilities, theories or methodologies acquired in one situation to new situations</td>
</tr>
<tr>
<td>CLO 2</td>
<td>Connect relevant experiences and academic knowledge</td>
</tr>
<tr>
<td>CLO 3</td>
<td>Demonstrate an evolving sense of self as learner</td>
</tr>
<tr>
<td>CLO 4</td>
<td>Integrate different forms of communication to enhance meaning (prose, sound, visual media)</td>
</tr>
<tr>
<td>CLO 5</td>
<td>Formulate a concept of digital citizenship and be able to fashion an online identity that demonstrates an awareness of the public/private divide</td>
</tr>
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</table>

Table 1 shows the Capstone Learning Outcomes.

The participating students were recruited from a variety of undergraduate education programs, including Ronald McNair and Student Support Services Federal TRiO Programs, the Honors College, and programs targeted to support underrepresented and low income students, as well as via the transfer student listserv. Participants were incentivized in several ways. First, they received expert guidance to help them develop their integrative and reflective ePortfolios, which has value in their career and academic development. Second, they were given an opportunity to present at a prestigious campus event, the Celebration of Academic Excellence, which they could include on their resume or curriculum vitae as having been an active participant. Finally, completion of the pilot and all ePortfolio components would result in one credit of successful independent study being added to their transcripts and a deposit of $100 into their Campus Cash accounts.

The “course” had an initial pool of 35 student volunteers, with 25 of them committing to participation. Eighteen students completed the capstone and all requirements and also provided consent to participate in the research component of the pilot project. The primary reason offered for not completing the capstone was “too many other demands on my time.” In the exit survey, one respondent selected “the technology was too confusing.” Over two-thirds of the participants (68%) expressed a willingness to volunteer for a full semester pilot in the fall.

The final sample of 18 students included students from many different backgrounds and majors. With regard to gender and race/ethnicity, the sample was 72% female and 50% White and 50% Black. Five of the participants were international students. Academically, the students were diverse, as well. For those who gave permission to participate in the study, one was a special admittance student, one was a transfer student, and the remaining 16 were admitted as freshmen. Four students had junior standing and 14 senior standing at the time of the pilot, having completed the majority of their undergraduate general education curriculum. With the exception of one, these students were high achieving: all participants had cumulative grade point averages (GPAs) over 3.0, with nine (50%) having cumulative GPAs over 3.75. Among the majors represented were single and double majors, including: accounting (n = 1), psychology (n = 3), social sciences interdisciplinary degree program (n = 3), political science (n = 1), biochemistry (n = 1), biological sciences (n = 3), biomedical science (n = 2), chemistry (n = 1), geological sciences (n = 1), biomedical engineering (n = 1), and civil engineering (n = 1). This diversity allowed for a wide range of curricular foci to be represented in the capstone ePortfolios.

Access to digital technologies ranged across the spectrum, with 64% indicating that they had some access to digital technologies, 27% indicated they had nearly unlimited digital access, and only two students indicating limited access with computer and internet access available only on campus or at public libraries. Most of the students in the pilot (86%), had never taken a class utilizing the ePortfolio platform. Their prior experiences building ePortfolios varied, with the majority (73%) having little to no experience, 18% with limited experience but considering themselves beginners, and only two feeling comfortable with ePortfolio platforms.

Students utilized the Digication ePortfolio software, an online product, to produce their ePortfolios. They were provided a general template to follow but were allowed to deviate from that template (which included a learning philosophy and outline of GEP components as a guide) so that their ePortfolios reflected their own uniqueness, creativity, and variety of artifacts. ePortfolios consisted of text and multimedia, including pictures, video, and music, as well as PowerPoint and PDFs of assignments from a variety of disciplines. In addition, students included curricular and co-curricular experiences. Students were directed to create a curricular ePortfolio, emphasizing learning and development, as well as curriculum integration, compared to a professional ePortfolio, which is styled more on a resume format and aimed at employment goals. The Digication platform allows
multiple ePortfolios to be created, and students may adapt their capstone ePortfolio into a professional ePortfolio for future uses. This was not explored in the capstone.

**Study Design and Data Collection**

This study employed mixed methodology for both the development of the pilot and the research approach. Mixed methods allowed the assessment team to triangulate results. Data were collected in the following ways: (a) pre-post survey, (b) Approaches to Learning Questionnaire, (c) qualitative analysis of student portfolios, (d) assessments of student assignments using rubrics, and (e) student feedback via forums.

**Instructor-created pre-post survey.** The instructor-created pre-post survey contained a combination of open- and close-ended questions and was administered via Google Forms. The pre-survey had ten questions, and the post-survey had 22 questions. This survey was designed to assess students’ understanding of digital literacy, technical skills in digital composition, and the purpose of a reflective capstone ePortfolio as compared to a professional presentation ePortfolio. In addition, in the post-version, students were asked to identify aspects of the course that were most and least helpful to them in completing the weekly assignments and the culminating ePortfolio.

**Approaches to Learning Questionnaire.** The 22-item online Approaches to Learning Questionnaire, developed by Van Zile-Tamsen and Livingston (1999) to assess students’ perceptions of growth in higher-order thinking skills as they progressed through the GEP, asked students to rate the extent to which statements describe themselves as learners on a five-point scale, from strongly disagree to strongly agree. This questionnaire contains subscales relating to Self-Regulated Strategy Use, Intrinsic Learning Motivation, Integrative Learning, and Critical Thinking. Students responded to the questionnaire twice, during both the first and last week of the pilot. This measure is still being piloted but has good concordance with agreed-upon definitions of self-regulated strategy use (Van Zile-Tamsen & Livingston, 1999), intrinsic motivation for learning (Eccles & Wigfield, 2002), integrative learning, and critical thinking (American Association of Colleges & Universities, 2011). Cronbach’s alpha internal consistency reliability estimates and descriptive statistics for the pre- and post-administrations are shown in Table 2. Evidence for the reliability of the scales indicates that Integrative Learning and Critical Thinking are much more reliable than Self-Regulated Strategy use and Integrative Learning. However, all results for this instrument should be considered primarily exploratory at this time.

**Qualitative analysis of student portfolios.** A qualitative thematic analysis of student portfolio content examined student use of ePortfolios to reflect, think critically, and integrate their curriculum experiences.

**Assessments of student assignments using rubrics.** As part of the instructional process, student assignments were assessed with rubrics developed by the instructors. (Students provided feedback on usefulness of rubrics). Student essays and artifacts were submitted to student ePortfolios by students through the ePortfolio platform. The platform was used for both peer and self “grading,” as well as reflection on artifacts. See sample rubric adapted from the AAC&U Value Rubrics in Appendix B. Rubrics were used to assess artifacts individually and the ePortfolio holistically on learning outcomes and related to GEP components.

**Student feedback via forums.** The instructor led three face-to-face and online forums to collect students’ feedback. The instructors also maintained a detailed record of interactions with students that occurred during office hours and electronically.

**Data Analysis**

**Approaches to Learning Questionnaire.** Changes in pre- and post-scores were examined to determine if students changed in their perceptions of their approaches to learning after completing the capstone requirements. Since the sample size was so small (12 students who completed both pre- and post-questionnaire), effect sizes were used to determine the magnitude and direction of changes rather than traditional paired samples t tests.

Table 2

<table>
<thead>
<tr>
<th>Scale</th>
<th>( \alpha )</th>
<th>Pre-test M</th>
<th>Pre-test SD</th>
<th>Post-test M</th>
<th>Post-test SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-regulated strategy use</td>
<td>0.60</td>
<td>4.17</td>
<td>0.42</td>
<td>4.16</td>
<td>0.65</td>
<td>0.02</td>
</tr>
<tr>
<td>Intrinsic learning motivation</td>
<td>0.56</td>
<td>4.28</td>
<td>0.54</td>
<td>4.33</td>
<td>0.58</td>
<td>0.14</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>0.86</td>
<td>3.88</td>
<td>0.89</td>
<td>3.66</td>
<td>0.84</td>
<td>0.18</td>
</tr>
<tr>
<td>Integrative learning</td>
<td>0.72</td>
<td>4.19</td>
<td>0.50</td>
<td>4.27</td>
<td>0.51</td>
<td>0.18</td>
</tr>
</tbody>
</table>
Qualitative analysis of student portfolios. Student ePortfolios were qualitatively analyzed for reflection, critical thinking, and integration of the academic curriculum. Standards of qualitative analysis, including thematic coding, were utilized. Each ePortfolio was analyzed individually and then the full set was re-analyzed as a whole with the set of codes for appropriate fit. Qualitative analysis was informally triangulated with instructors’ understanding of rubric assessment outcomes in areas of reflection and integration of curriculum.

Results

Instructor Pre-Post Survey, Student Forums, and Office Hours Feedback

Feedback was collected by the instructor through surveys, in-person and online student forums, and office hour discussions. The following is a summary of the surveys and those notes. Throughout the pilot course, students expressed appreciation for a moment to look back over their coursework, surprised by all they had done and by the contrasts between who they were as freshmen and the students they had become. Intellectual growth was witnessed when students realized that their positions on controversial social and political issues had changed. In regards to introspection about their growth over their curriculum, one student stated, “I read my first research paper again and I couldn’t believe those were my words. I totally disagreed with everything I wrote as a freshman!” Reflection could be found in other statements, as well. One student, for example, noted: “I haven’t looked back at the things I have done throughout my time here . . . in a comprehensive and thoughtful way like this before.” Another student stated, “The sky’s the limit on all the things that make you unique.” With regard to curriculum integration one student noted,

Reflecting back on my work made me realize how a lot of it actually impacted me as a student, even though I did not think it did at the time. I would not be as well-rounded, open minded, or understanding as I am today if were not for my general education courses.

Another student said, “It made my gen ed courses actually mean something.”

Unexpectedly, the instructors were impressed by the variety and depth of the stories, and narratives the students shared, providing insight into their lived experiences. The students reflected on and shared moments of discovery. Also, through peer groups and the pilot program, students developed a sense of community (as evidenced by their desire for a group picture at the Celebration of Excellence). Group cohesion was surprising, as this was an online cohort for a short six-week program.

From the pre-post instructor survey overall, the students’ understanding of digital literacy did not change from the beginning to the end of the pilot. When asked to define “digital literacy” on the opening survey, most students responded with “the ability to use technology” or “to find information” on the Internet. Only one student defined digital literacy as “maintaining some kind of profile or presence” on the Internet. When asked, “How has your understanding of digital literacy changed since completing the mini-course,” many responded “not a lot” or “I’m still not sure what digital literacy means.” Of the few students who noted a change in understanding, one wrote, “Being able to use such a tool is no longer sufficient enough. Being able to maneuver such tool to present one’s own thoughts and experiences as clearly as possible is my new understanding of ‘digital literacy.’”

The opening/exit surveys showed a greater understanding of how an integrative capstone ePortfolio differs from a professional career ePortfolio. The surveys, moreover, showed an improvement in technical skills using a digital media platform and a strong likelihood to use these new skills on digital media projects in the future.

Furthermore, the survey indicated the order students made greatest use of the following help resources: (1) ePortfolio startup guide (86%), (2) e-mails to instructor (64%), (3) peer support (50%), (4) visual guide to ePortfolios (36%), (5) other online help (e.g., ePortfolio platform videos: 21%), (6) e-mails to support technology support (14%), (7) scheduled office visits (7%), and (8) open lab walk-in hours (0%). Utilizing these resources and participating in the project helped the students develop their abilities. Of the 14 students who responded to the survey, a majority indicated improvement in using a digital media platform (mean 3.64/4.0) and an increased likelihood of using their technical skills in other digital media projects in the future (mean 3.64/4.0).

One resource students did use was the rubrics. Students made good use of the evaluation rubrics for self-reflection in developing their ePortfolios, with most students having consulted the rubrics for two or more assignments prior to submission, $M = 2.93, n = 14$. Also, on a scale of 1-5, a majority of students (57%) ranked clarity of the rubrics at a 4 ($5 = \text{clearly articulated learning outcomes}$). The mean was 3.57 ($n = 14$).

Finally, the exit survey showed great satisfaction with the ways in which the pilot course fulfilled student expectations, with 43% responding 5/5 (fully satisfied expectations) and 36% at 4/5 (nearly fulfilled), $M = 4.21, n = 14$. While one student expressed surprise at the amount of work involved in the pilot, open responses to
“unexpected outcomes” were overwhelmingly positive. Many students noted surprise at realizing how much work they had actually done as an undergraduate, how many connections they were able to draw, how much their general education curriculum had actually impacted them as a student; they even realized the existence of “missed opportunities” after looking back over their experiences.

Approaches to Learning Questionnaire

As shown in Table 3, students’ scores on the self-regulated strategy use scale remained quite similar from pre- to post-questionnaire, increasing a negligible amount ($d = -0.02$). In each instance, students rated themselves on the high end of the scale in terms of monitoring and regulating their own learning. With regard to integrative learning, students’ scores remained on the high end of the scale for both questionnaire administrations, but in terms of effect size, there was a small increase from pre to post ($d = 0.18$). In contrast, students’ critical thinking scores and intrinsic motivation for learning scores decreased a small amount from pre- to post-questionnaire ($d = 0.18$ and $0.14$, respectively). Interestingly, they rated themselves initially lower in critical thinking at the beginning, and they were even less confident in their Critical Thinking skills at the end of the pilot. In terms of initial ratings, intrinsic motivation for learning was highest at the beginning and also decreased. These findings are not surprising in light of the qualitative analysis of their portfolios.

Qualitative Analysis of Student Portfolios

In general, the reflective essays took the form of personal autobiographical narratives that were far more reflective than integrative. Even when present, critical reflection tended toward autobiographical narrative, with an inward focus upon self instead of greater, global issues—again, with a few notable exceptions. With regard to critical thinking, students made judgments, evaluations, and analyses of their own experiences, artifacts, and education as presented in their ePortfolios. The majority of critical thinking was represented through the individual artifacts, mainly submitted as unique assignments, and not represented in the personal learning statement or reflective essay. However, the level of both reflection and integration of curriculum represented in the ePortfolios varied among the students. More specifically, several themes emerged from convergent theme analysis. These included attributes, emotion, values, narratives, reflections, and integration of curriculum.

Attributes included students’ use of their ePortfolios to share their identities in regards to their demographics and academic data as direct points. For some students, this information was stated in language similar to other online profile introductions; for example, “I’m an international student from Ho Chi Minh, Vietnam (the name ‘Saigon’ might ring a bell). I enjoy traveling, cooking Vietnamese cuisine, making crafts, and catching up on current politics, human rights issues, and East Asia/Southeast Asia’s news.” For others, the description became more narrativized; for example,

As a single mother of two teenage boys and a full-time student, I am in a unique class of adult learners . . . and I take great pride in both roles. As one can imagine, combining these two demanding roles consumes the majority of my time, and leads to many late nights and little sleep, but I wouldn’t give it up for anything! My children are my world, but coming back to school has given me something that I can be proud of outside of being someone’s mother.

Others presented their identities in resume format, which blended the genre conventions of presentation and reflective portfolios. In addition, these were often accompanied with pictures containing descriptions. Their identity attributes were evident not only in their introductory page but throughout their learning philosophy and reflective essays when they reflected on their experiences while identifying who they were: “In my sophomore year I became a Teaching Assistant for this course. I recognized the need for a TA among my classmates and was eager to volunteer as a TA.”

Second was the use of ePortfolios to express emotion and values. Students would share their viewpoints, standpoints, beliefs, and attitudes and portray their emotions and values through their discussions and choice of visual media. For example, many students chose visual images of experiences that held great passion for them in extracurricular realms of their education, such as study abroad experiences, connecting with others, family, and friends, and pictures that represented their cultural and ethnic heritage. In one picture from a trip abroad, a student described the individual she was hugging and wrote, “I’ve visited the Dominican Republic three times during spring breaks to teach English. While there, I discovered a passion for teaching that I brought back to [university] with me!” Furthermore, when discussing their values related to learning they used words related to passion and strong desire to engage in learning. In another example, one student stated,

I wanted my college experience to be more than this, so I pushed myself . . . and spend more time early on learning the material . . . In order to truly learn I understand that not only will it take time, but it will also take a lot of motivation. I would say I motivate myself to learn . . . Learning enables me to broaden my perspectives and become a better educated, more
well-rounded person; even if I am not particularly interested in the material, I recognize that there is still value in gaining knowledge.

Another stated, “Learning has been a strength and passion of mine that has kept me going through the years.”

Students also used their ePortfolios as a reflective tool. Although specifically prompted, they presented well-developed reflective essays and descriptions of artifacts that shared stories with a sense of connection to something deeper or broader than the surface artifact or statement being displayed. One student included an artifact that was her internship reflection journal. Most students demonstrated strong reflection skills. Only three of the 18 students had reflection skills that were lacking or basic as demonstrated by the portfolio as a whole. One student reflected,

I chose none of the samples for the mere fact that I did extremely well or utterly terrible on them or in the course; they were chosen to depict growth and portray that there is always room for improvement as one continues to pursue the undergraduate career and even beyond that.

Many reflective statements demonstrated that students were truly able to make connections beyond surface observation. For example,

I think this essay is vital to include because it explains my thoughts and concerns prior to my service. I knew that my service would be a learning experience for me, but I was unsure what I would be taking away from it.

Moreover, these reflective statements also showed students developing more nuanced approaches to their learning situations as can be seen in the following response: “Since the course, I have grown to learn that it is okay to have different opinions than others; one person’s opinion is not necessarily greater than another’s.” Students also further established developments in their understanding of the complexity of meaning: “Ever since writing this paper I have been able to dig deeper when researching and analyzing other topics. I have learned to look beyond the surface in order to truly find the meaning behind certain things.”

Lastly, integration of curriculum was a theme expressed in the discussion of academic experiences beyond single experiences or courses. Some students spoke to how their curriculum actually focused in the integration:

Interestingly, my course choices foreshadowed the path I would eventually end up taking. Courses such as developmental psychology and parenting displayed my inner desire to learn how the mind works and use that knowledge to help people better their lives! . . . I also had a heavy scientific course load including anatomy, chemistry, and nutrition. I have always found the biological sciences attractive. I am unendingly intrigued by the inner workings of the human body and continue, to this day, to seek out opportunities to learn more about how the body works!

Others spoke more broadly to the integration of the curriculum connecting it to their personal and career lives:

Through my general education requirements . . . I was able to explore these empathy-driven interests. I explored cross-cultural understandings, economically disadvantaged communities, race in America, and the legal system as it relates to morality. In each of these courses, I felt the fibers, the empathy which motivates me, resonate. As I explored the variety of stories so often forgotten or overlooked by others, my curiosity in the human experience only expanded, and it still expands with my majors.

Another student furthers this sentiment, stating that

By my senior year I really began to appreciate all the opportunities that I have had to learn. Three years ago, I thought my World Civilizations class was futile to me as an Accounting major. As I reflect back . . . I realize that the class did [affect] me, not necessarily the specific learning material, but with the exposure I have gained by taking the course. I feel like I understand people better and their cultures. I understand others viewpoints and the things that are meaningful to them. Specifically, this impacts my role as a global citizen because it is important to have awareness of what is going on in the world.

Student Artifacts Assessed by Rubrics

Rubrics, based on the LEAP rubrics, were utilized to assess student work. Several themes emerged from the use of these rubrics.

“Connections” took the shape of unfolding student self-discovery, with personal narratives of how students discovered their major and style of learning, and recognized their personal growth as a student. It was difficult to identify specific evidence of connections between “examples, facts, or theories from more than one field of study or perspective.” Because of the autobiographical nature of the reflections, the unifying or “connecting” factor was the individual student, usually limited to one field of study.
Evidence of ability to “adapt and apply skills” most often appeared in community service, experiential learning, or alternate break experiences, where students used their language, math, and science skills to help others, contribute to an internship assignment, or participate in cultural exchange programs. Students who had not participated in activities beyond the classroom showed difficulty in fulfilling this portion of the capstone. In applying this portion of the rubric, it was difficult to distinguish between a level 3 and 4, as a judgment had to be made whether a student was solving a difficult problem (vs. a problem), a complex issue (vs. an issue), and whether or not they had done so in an original way. In many cases, the students narrated problems of a personal nature, such as locating student help services on campus or pursuing a social science degree instead of entering the medical field. There was also evidence of ability to adapt and apply skills within students’ academic coursework samples, but these were applications to individual problems without evidence of transfer to new situations.

How students “connect relevant experiences and academic knowledge” revealed, through the rubrics, an amount of overlap between this category and “Articulate Connections” above, especially since both categories emphasize connections between multiple fields of study. The added element of this category seems to be an emphasis on experiences outside the classroom. If anything, this category more effectively addressed the sort of reflections in the pilot.

Demonstrating their “sense of self as an evolving learner” category was the easiest to validate, since both the learning philosophy statement and reflective essay offered an opportunity for students to address their ongoing progress as learners and to project plans for themselves into the future. This category was especially well suited to the mode of personal reflection the students adopted in their essays.

In the rubric theme “integrate different forms of communication,” there was much room for improvement, especially at the point of integrating different forms of communication. While every student at least attempted to create a multi-media design, few actually “integrated” their visual and textual material. Videos were rare and presented with little to no commentary to “enhance meaning, making clear the interdependence of language and meaning, thought, and expression.” Future iterations of the project may need to place greater emphasis on citation of sources for images as well as verifying that embedded media actually “works” (example: certain add-ons work for Mac but not for PC).

Finally, there were the criteria for “digital citizenship.” While the instructors were confident in the students’ ability to present themselves in a responsible manner, it was difficult to find evidence of deeper critical thought regarding global-digital citizenship since there was no single place for students to articulate explicitly their understanding of digital citizenship in the ePortfolio assignment.

At this time, the rubric categories are not strongly supported by actual evidence in the ePortfolios. As a courtesy to our volunteer pilot students, the instructors merged certain aspects (such as digital citizenship and collapsing the two connections categories into one) when evaluating their work, pending further revisions to the program (see below). The current capstone ePortfolios yielded meaningful results to the students, but fell short when held against the rubric standards, as currently worded. For many categories, it was difficult to determine what distinguished a 2 from a 3 or a 3 from a 4. For example, what evidence would we look for to determine whether a student uses or adapts skills to new situations, or to illuminate concepts vs. deepen understanding?

Overall, the students had a more positive experience using the evaluation rubrics for self-evaluation than did the instructors. While the rubrics apparently articulated the learning outcomes in a way that is helpful to the students, the instructors found it difficult to align the rubrics with tangible evidence from the ePortfolios. That being said, the student self-evaluations of the final ePortfolios were well in keeping with instructor evaluations. Few students scored themselves either significantly higher or lower than marks given by instructors.

Discussion

The capstone course was designed to foster critical thinking skills through a variety of tasks and processes within the capstone project. For example, students had the opportunity to maximize the use of hierarchy for sections, pages, and modules, which promoted conceptual understanding. For students who opted to present their written content in PowerPoint format (which helps to fulfill the multi-media requirement), the slides needed to be accompanied by either a written or oral script that meets the general requirement for the scope of the composition assignment (translated as minimum word count). Depth and development of thought was lacking in all PowerPoint format presentations. In addition, students own ratings of their critical thinking skills decreased a small amount after completion of the pilot.

Reflection was promoted throughout the project through several integral assignments, such as the philosophy statement and the reflective essay. Choosing which artifacts to include over the course of their curriculum required critical reflective observation on the part of the students. Better instruction for students is needed on the rhetorical moves necessary for
incorporating and developing examples in a thoughtful, reflective manner rather than simply naming a title of a course or mentioning hastily a relevant experience in their essays. The current reflective essays and learning philosophy statements tend to offer broad generalizations, with little support or development. Individualization is important in reflection. It was learned in the pilot that we must guide students through the process of individualizing the general template into their own design, reflective of their interests and philosophy of learning. An opportunity for increasing critical reflection might be in the philosophy statement; for example, recasting the current learning philosophy statement to address the meaning of digital literacy, digital citizenship, and the ethical challenges and obligations of lifelong learning in a digital world. The style of writing for this essay should be critical reflection rather than personal autobiographical narrative, apart from specific experiences related to ethical challenges of digital citizenship.

With regard to integration of the curriculum, the students did a thorough job of transferring their undergraduate experiences into quality ePortfolios and demonstrating concrete learning in the realm of the general education curriculum. Along these lines, reflective ePortfolios lend themselves to such curricular developments in that they are open to metaphorical conceptualization, which allows students to build connections and engage in high-order processes of representation. Rather than optional supplementary material, “beyond the classroom” experiences should be required as an integral component of the capstone ePortfolio. Coursework samples and experiences beyond the classroom can be accompanied by a brief written introduction from the student that frames the significance of the project, assignment, or experience. Even a simple criteria statement (why this sample was chosen) would be helpful to evaluators, as well as an important preliminary step towards the final reflective essays. Brief (i.e., 50 to 100 word), required explanations of each artifact promote synthesis and cohesion of the artifacts. One challenge with integration of curriculum in this pilot was found in the assessment through the rubric. In teaching the full capstone, stating more clearly the parameters the reflective essay, which should draw connections across academic disciplines and connect relevant experience with academic knowledge, will be highly important. The essays should demonstrate application of skills to solving complex problems, if the current rubric is to be an accurate reflection of outcomes. More explicit writing instruction will need to be developed for each assignment, detailing style, tone, and rhetorical conventions that will clearly locate students’ ability to synthesize material. We currently cannot validate, for example, areas in which students have made connections or applied skills. General education outcomes would need to be made explicit in the evaluation rubric, in terms of what sorts of connections the students are to formulate, and whether they are drawing upon academic coursework or experiences beyond the classroom. For example, students’ ability to think critically about global issues, even if clearly articulated in their writing, may or may not mean they have achieved the stated learning outcomes of drawing connections or adapting skills to explore complex problems.

Digital literacy was another important element of the capstone ePortfolio. Building on their communication skills in this digital platform made it easier for students to envision their readers. The ePortfolio platform in and of itself allowed students to engage in digital citizenship. Students became part of a digital community, which prompted instructors to discuss community membership and managing access to content. Visual rhetoric was crucial to the aspect of digital literacy in the capstone. Here, the ability to establish a guiding idea that unifies the ePortfolio visually and conceptually will be an important concept to develop further. Moving forward, there is a need for direct engagement with topics of digital literacy, digital citizenship, and ethical challenges in a digital environment. What was thought would be an implicit outcome will need to be made explicit in learning modules or modifications to ePortfolio assignments.

**Recommendations and Future Directions**

Overall, the pilot was a success in generating feedback on how the capstone might provide the institution with an understanding of how students can present knowledge, skills, and abilities. The capstone pilot provided evidence about how well the syllabus was developed to guide the instructors in facilitating the course, in addition to the logistics of administering the capstone as an online course.

First, not all students have high autonomous access to information communications technology (Robinson, 2009). Students’ ability to present higher order thinking skills through a technology such as an ePortfolio requires a technology skill-base. The instructors built in peer support groups and instruction, which should be maintained, but 1:1 instruction and the platform learning curve were time consuming and, early on in the pilot, were found to detract from the main learning outcomes of the course. In the actual implementation, these problems may be mitigated by the fact that students will be exposed to the platform as early as freshman year (with the exception of transfer students). However, support documentation will need to be more robust and may include video tutorials and alternative active learning modes.
Second, the rubrics will need to be adapted to be more responsive to assessing critical thinking, reflection, and integration of curriculum. The instructors struggled with using the rubrics, as currently written, to assess these outcomes. Further refinement will be needed, as well as calibration with additional instructors and teaching assistants.

Third, additional assignments will be included in the full semester capstone, further complicating the syllabus, measures of student learning, and assessments. A full semester and the chance to provide multiple opportunities for students to present their work in ePortfolios will likely increase their abilities to demonstrate higher order thinking skills. However, while there will be more time to execute the activities of the ePortfolio, caution will be needed for the instructors and students to have the required support to utilize the ePortfolio tool to represent these outcomes to a greater degree and complexity.

**Conclusion**

Although there is room for improvement in the execution of the curriculum design, both instructors and students found the capstone ePortfolio experience to be fulfilling in meeting the goals intended of the pilot. Multi-method assessment shows that a capstone ePortfolio course experience can be valuable in giving students a chance to integrate their general education curriculum and demonstrate their higher-order thinking skills in a digital space. Capstone ePortfolio experiences offer excellent opportunities for students to reflect on their undergraduate careers as well as for institutions to assess the knowledge and skills that students have gained throughout the curriculum. A well-developed capstone curriculum design and rubrics help guide these opportunities.

**References**


CATHLEEN MORREALE completed her PhD in Higher Education Administration through the Department of Educational Leadership at the University at Buffalo (UB) in 2011. Her various professional and personal experiences in higher education have focused on assessment, course evaluation, curriculum and program development, experiential learning (including internships and service-learning), counseling and advising, and career development. Cathleen currently serves as a curriculum and evaluation specialist at UB’s Center for Educational Innovation.

CAROL VAN ZILE-TAMSSEN is currently the Associate Director, Curriculum and Assessment, UB Curriculum in the Office of Undergraduate Education at the University at Buffalo, and serves as an adjunct associate professor in the Counseling, School and Educational Psychology department in UB’s Graduate School of Education. Van Zile-Tamsen’s primary focus involves Student Learning Assessment and Program Evaluation, and she teaches courses related to educational testing, psychometrics, and statistics. She has been actively leading assessment work at UB since 2012 in her previous roles as Associate Director for University Accreditation and Assessment and Associate Director for the Center for Educational Innovation. She was the co-chair of the UB Middle States Decennial Review Steering Committee from 2012-2014; UB was fully reaccredited in 2014. In addition to her work at UB, Van Zile-Tamsen helped develop the SUNY Council on Assessment's Student Learning Assessment certificate program and continues to teach the final course in the series.

CHERYL A. EMERSON has assisted in the development of SUNY Buffalo’s ePortfolio program since its pilot phase in Fall 2014, beginning with the integration of ePortfolios into the English composition classroom. She has served on the faculty senate Capstone committee, assisted with ePortfolio technical training and faculty development workshops both at UB and at various digital education conferences, and currently serves as the lead TA for the Capstone component of the new UB Curriculum. In 2015, Cheryl received the graduate student essay award from the New York College English Association for her essay “Piloting ePortfolios: Repetition, Difference, and Student Self-Formation.” She is currently a doctoral student in Comparative Literature at UB with interests in Continental philosophy, aesthetics, and narrative theory. Her research seeks literary applications of Merleau-Ponty’s phenomenology as encountered in his course notes and writings on literary language.

MATTHEW HERZOG is currently a PhD candidate in the department of Comparative Literature at SUNY Buffalo. His teaching and research interests span: composition, writing studies, 19th and 20th century British and Irish writing, modernism, digital humanities, cultural materialism, ePortfolio and blogging pedagogies, and writing and first-generation college students.
Appendix A
Syllabus and Assignment Outlines

UB Pilot Capstone Spring 2016

Instructor: Cheryl Emerson, cherylem@buffalo.edu
Office location and hours:
Walk-in lab hours: Thursdays, 1:00-3:00pm, 212 Capen, CEI (Center for Educational Innovation, 2nd floor of Silverman Library)
Online and additional office consults available by appointment

COURSE INFORMATION

Dates/Times: February 29 – April 4, 2016
Spring Break: March 14-18 (no assignments)

Credit: Students who satisfactorily complete all requirements and submit the final ePortfolio will receive 1 credit of UE 499 Independent Study.

Location: Online, following group orientation session. The 6-week pilot course is asynchronous with walk-in lab hours as well as instructor online support

Other Dates and Times:
Pilot Capstone Orientation: Monday, February 29, 5:30 pm, CEI Open Student Forums: [TBA]
*Volunteers are asked to attend the orientation session and participate in one or more of the 3 open student forums

COURSE DESCRIPTION

The Pilot Capstone is a 6-week mini course designed to be a trial run of the full UB Capstone course beginning Spring, 2017. The UB Capstone will be the culminating experience of the general education program, the UB Curriculum. The Capstone is not a seated class, but rather a digital space set aside for thinking, reflecting and weaving together elements of the program through the creation of a Capstone ePortfolio: a multi-media, web-based platform where students will gather and integrate their learning experiences at UB into a meaningful whole, demonstrating their growth and development as learners.

The Pilot Capstone will include selected components of the full Capstone. A completed Pilot Capstone ePortfolio will consist of:

- A personalized home page that serves as a brief introduction to the student, his or her studies, co-curricular work and career goals.
- A learning philosophy statement which describes the student’s current beliefs and approach to learning and how this has evolved since enrolling at UB, including the influences that UB instructors and coursework have had on the student’s learning philosophy.
- Examples of completed papers and assignments from various areas of the student’s undergraduate coursework.
- One reflective essay that seeks to integrate various aspects of the student’s undergraduate learning experience.
• Any additional optional materials the student chooses to add, such as resume or portfolio of completed work, or summaries of study abroad or relevant extra-curricular experiences central to the student’s growth as a learner.
• One or more ePortfolio pages that draw upon the multi-media design features of the digital platform. Students will be provided with ample technical training and support in digital writing and composition in multi-media formats.

**COURSE PREREQUISITES**

Student volunteers for the Pilot Capstone may be juniors or seniors from any major or transfer students with junior or senior status who have completed a minimum of 60 credit hours.

**COURSE REQUIREMENTS**

• Attendance at the **Pilot Capstone Orientation** session Monday, February 29, 5:30 pm [location TBA] and participation in one or more of our 3 **Open Student Forums** [dates and times TBA]. The Open Student Forums will provide a place for students to discuss their experience with the Pilot Capstone Course with instructor, peers, and CEI staff members to offer suggestions for greater effectiveness of assignments, and to share any other concerns or questions).
• On time completion of weekly online discussion topics and assignments (listed below)
• Participation in pre and post student surveys to aid in the assessment of the ePortfolio program and to provide feedback to instructor and administrators.

**STUDENT LEARNING OUTCOMES**

Upon completion of the Pilot Integrative Capstone, students will be able to:

<table>
<thead>
<tr>
<th>Course learning outcome</th>
<th>Maps to the following program outcomes / competencies:</th>
<th>Delivered through the following instructional method(s):</th>
<th>Student achievement assessed with the following method(s)/assignments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articulate connections across different academic disciplines and perspectives.</td>
<td>UBGE, SUNY Critical Thinking, MSCHE Critical Analysis and Reasoning</td>
<td>Online Instructional Materials Tutorials Consultation with instructor</td>
<td>Reflective Essay ePortfolio</td>
</tr>
<tr>
<td>Adapt and apply skills, abilities, theories or methodologies acquired in one situation to new situations.</td>
<td>UBGE, SUNY Critical Thinking, MSCHE Critical Analysis and Reasoning</td>
<td>Online Instructional Materials Tutorials Consultation with instructor</td>
<td>Reflective Essay ePortfolio</td>
</tr>
<tr>
<td>Connect relevant experiences and academic knowledge.</td>
<td>UBGE, SUNY Critical Thinking, MSCHE Critical Analysis and Reasoning</td>
<td>Online Instructional Materials Tutorials Consultation with instructor</td>
<td>Reflective Essay ePortfolio</td>
</tr>
<tr>
<td>Demonstrate an evolving sense of self as learner.</td>
<td>UBGE, SUNY Critical Thinking, MSCHE Critical Analysis and Reasoning</td>
<td>Online Instructional Materials Tutorials Consultation with instructor</td>
<td>Philosophy Statement</td>
</tr>
</tbody>
</table>
Integrate different forms of communication to enhance meaning (prose, sound, visual media).

UBGE, SUNY Basic Communication Skills, SUNY Information Literacy, MSCHE Witten and Oral Communication, MSCHE Technological Competency

Online Instructional Materials Tutorials Consultation with instructor

ePortfolio

Formulate a concept of digital citizenship and be able to fashion an online identity that demonstrates an awareness of the public/private divide.

UBGE, SUNY Information Literacy, MSCHE Technological Competency

Online Instructional Materials Tutorials Consultation with instructor

ePortfolio

Note. UBGE = UB General Education; SUNY categories in the above table are those required by the SUNY General Education Program (http://system.suny.edu/media/suny/content-assets/documents/academic-affairs/general-education/GenedCourseGuidelines_20120530.pdf), and MSCHE categories represent the areas of general education required by the Middle States Commission on Higher Education.

GRADING POLICY

Assignments will be graded based upon rubrics for each separate assignment as well as the final ePortfolio. Students will be provided with rubric criteria in advance of each assignment to be weighted as follows:

<table>
<thead>
<tr>
<th>Weighting</th>
<th>Assessment/assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>Home Page</td>
</tr>
<tr>
<td>20%</td>
<td>Learning Philosophy Statement</td>
</tr>
<tr>
<td>20%</td>
<td>Reflective Essay</td>
</tr>
<tr>
<td>10%</td>
<td>Proficiency in multi-media design *(may be demonstrated on Home Page, Learning Philosophy Statement, or Reflective Essay)</td>
</tr>
<tr>
<td>40%</td>
<td>Overall ePortfolio</td>
</tr>
<tr>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Final Grades:

Although your 1-unit independent study credit will be an “S” for “Satisfactory Completion,” I shall provide instructor feedback on separate assignments using the traditional percentage range. Percentage grades are for your information only and will not appear on your student transcript!

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td>93.0% -100.00%</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
<td>90.0% - 92.9%</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
<td>87.0% - 89.9%</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
<td>83.0% - 86.9%</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
<td>80.0% - 82.9%</td>
</tr>
<tr>
<td>C+</td>
<td>2.33</td>
<td>77.0% - 79.9%</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
<td>73.0% - 76.9%</td>
</tr>
<tr>
<td>C-</td>
<td>1.67</td>
<td>70.0% - 72.9%</td>
</tr>
<tr>
<td>D+</td>
<td>1.33</td>
<td>67.0% - 69.9%</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
<td>60.0% - 66.9%</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>59.9 or below</td>
</tr>
</tbody>
</table>
Incompletes (I/IU):

Because students are enrolled in the Pilot Capstone course on a volunteer basis, a grade of Incomplete (I/IU) will not be posted to the student’s transcript. However, it is expected that each Pilot participant will satisfactorily complete each of the course requirements. Students unable to complete the requirements will forfeit the 1-unit independent study credit and award of Campus Cash.

ACADEMIC INTEGRITY

Academic integrity is a fundamental university value and equally expected of students in the Pilot Capstone course. Through the honest completion of academic work, students sustain the integrity of the university while facilitating the university's imperative for the transmission of knowledge and culture based upon the generation of new and innovative ideas.

- Link to the university Undergraduate Academic Integrity policy: (http://undergradcatalog.buffalo.edu/policies/course/integrity.shtml)

ACCESSIBILITY RESOURCES

If you have any disability which requires reasonable accommodations to enable you to participate in this course, please contact the Office of Accessibility Resources, 25 Capen Hall, 645-2608, and also the instructor of this course. The office will provide you with information and review appropriate arrangements for reasonable accommodations. http://www.student-affairs.buffalo.edu/ods/

SCHEDULE

Although the course is not seated and delivered asynchronously, you will be expected to maintain satisfactory progress by keeping pace with weekly milestones:

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Required readings/assignments(s)</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1: 2/29-3/4</td>
<td>Introduction to the Capstone ePortfolio: concept and design; Basics of Digital Literacy</td>
<td><strong>Readings:</strong> UB ePortfolio Startup Guide and Visual Guide to ePortfolios <strong>Assignments:</strong> Opening Welcome Survey (online); Completion of student Home Page</td>
<td>Friday, 3/4</td>
</tr>
<tr>
<td>Week 2: 3/7-3/11</td>
<td>What is a “Philosophy of Learning”?</td>
<td><strong>Assignments:</strong> Posts to “Philosophies of Learning” discussion board topics in Digication; completion of Learning Philosophy Statement</td>
<td>Friday, 3/11</td>
</tr>
<tr>
<td>Week 3: 3/14-18</td>
<td>SPRING BREAK!</td>
<td><strong>NO ASSIGNMENTS!</strong></td>
<td></td>
</tr>
<tr>
<td>Week 4: 3/21-3/25</td>
<td>“Curating the Exhibit”: Criteria for Choice</td>
<td><strong>Assignments:</strong> Posting of individual “criteria” statement to online discussion board; completion of Coursework Samples page in ePortfolio</td>
<td>Friday, 3/25</td>
</tr>
<tr>
<td>Week 5: 3/28-4/1</td>
<td>“Modes of Reflection”</td>
<td><strong>Reading:</strong> [Annie Dillard reflective essay: title TBA] <strong>Assignment:</strong> Discussion board response to reading; completion of Reflective Essay</td>
<td>Friday, 4/1</td>
</tr>
</tbody>
</table>
Week 6: 4/4-4/8  Peer review and self-evaluation (rubric)  Assignment: Final Pilot Capstone ePortfolio Due; exit student survey (online)  Friday, 4/8

COURSE MATERIALS

- UB ePortfolio Startup Guide (online pdf)
- The Visual Guide to ePortfolios (online pdf)
- Digication ePortfolio (accounts provided to students)
- Other course documents posted through Digication

ATTENDANCE POLICY

Online presence: students are expected to participate in weekly online discussions and activities and to submit weekly assignments by date due. Extensions for weekly online activities or due dates of assignments may be granted for family or health related emergencies. Because the weekly activities are self-paced, students are encouraged to plan ahead to avoid conflicts with religious holidays or school athletic commitments. Extensions will be granted at the discretion of the instructor. Unexcused late work will result in a loss of 5% credit each day, deducted from the weekly assignment grade.

Physical attendance: By committing to the Pilot Capstone course, students agree to attend both the Pilot Capstone Orientation session (date listed above) and one or more Open Forum discussions.

ONLINE DECORUM

- Students are expected to maintain a respectful, professional tone in all online discussion board topics as well as material posted to ePortfolios. The practice of appropriate Online Decorum is a necessary component of responsible Digital Citizenship as well as one of the non-quantitative learning outcome goals of the Pilot Capstone course. Failure to maintain Online Decorum may result in dismissal from the Pilot course.
Close Reading: Engaging and Empowering History Students Through Document Analysis on ePortfolio

Jordi Getman-Eraso and Kate Culkin
Bronx Community College

This article examines the intersection of the scholarship on ePortfolio and history pedagogy through an analysis of the success of the integration of Digication’s Conversations feature into history courses at Bronx Community College (BCC). History professors at BCC have used the feature, which allows people to highlight and comment on text and respond to comments, to have students contribute to group analyses of primary source documents. This exercise combines the active learning, reflection, metacognition, and integrative learning recommended in both bodies of scholarship. The article includes quantitative and qualitative analyses of student success in hybrid courses that include Conversations, with the results suggesting ePortfolio use can intensify the development of historical thinking.

Scant ePortfolio scholarship has focused specifically on the discipline of history, but the scholarship of teaching and learning (SoTL) history dovetails closely with the scholarship on and philosophy of ePortfolio. Both stress the importance of moving away from memorization and rote repetition to focus on active learning, reflection, and analysis. At Bronx Community College (BCC), part of the City University of New York, history faculty have integrated ePortfolios into their classes, recognizing that they help students achieve the learning outcomes laid out by the college, the university, and the professors themselves, in terms of gaining historical knowledge, academic skills, and a sense of an identity as college students. This article focuses on how two BCC professors use Digication’s Conversations feature to help students develop their ability to analyze historical documents and understand historical arguments, strengthening their analytical skills in the process. Their experience suggests the benefit of understanding ePortfolio scholarship not in a vacuum, but in relation to the SoTL within the disciplines. This pedagogically-sound integrated approach also has proven effective in addressing the practical realities faced by students at an intercity community college. This connection helps answer the call issued in the 2015 Association for Authentic, Experiential, and Evidence-Based Learning (AAEEBL) keynote address, “Back to the Future: ePortfolio Pedagogy Yesterday, Today, and Tomorrow” by Helen Chen, Gary Brown, Ashley Kehoe, and Kathryn Colman, which encouraged the ePortfolio community to look “outward to explore the connections to evidence-related conversations occurring beyond AAEEBL” (para. 1).

Correlations Between ePortfolio Scholarship and SoTL of History

While not always using the same terminology and written largely in isolation from one another, the scholarship of ePortfolio pedagogy and that of teaching and learning history both emphasize the importance of high impact practices including active learning and reflection, as well as metacognition and integrative learning. Much of the scholarship on ePortfolio stems from George Kuh’s concept of high impact practices, which stresses the importance of active learning and recognizes that much of the deepest learning takes place outside the traditional lecture-based classroom (Huburt, Pickavance, & Hyberger, 2015). ePortfolios also promote metacognition—a student’s thinking about his or her own thinking and learning—as they allow students to document and reflect on their learning process. As Boesch, Reynolds, and Patton (2016) explained, “ePortfolios can be a rich tool for aiding students in the development of metacognitive skills. In fact, the process of creating an ePortfolio is indeed a metaphor for metacognition. That is what it is all about” (p. 456). ePortfolios also promote integrative learning, the ability of students to make connections among their classes and between their school work and their lives beyond the classroom, which can lead to greater student engagement and understanding of—and commitment to—their learning process. Eynon, Gambino, and Török (2014) have argued, for instance, that “the value of ePortfolio experience emerges from the ways it makes learning visible, facilitating connective reflection, sharing, and deeper, more integrative learning” (p. 98).

Much of the research in history pedagogy indicates student success, in terms of developing critical thinking skills and historical knowledge, as well as student engagement, improves when faculty move away from traditional lectures and assessments based on repetition of facts to an emphasis on developing historical thinking. This approach encourages students to understand history as a contested interpretation of facts and develop their own questions and arguments based on the analysis of primary and secondary sources (Calder 2006; Otremba 2014; Sipress & Voelker 2011; Wineburg 2001). The path to historical thinking
includes active learning, reflection, and, though rarely named as such in the literature, encouraging metacognitive and integrative learning. The analysis of documents, individually and in groups, incorporates active learning. Students’ reflection on the analytical process through which they develop their own historical questions and understanding of the bias inherent in that process promotes metacognitive learning, which is critical to helping students learn to think historically (Frederick, 1993; Pace, 1993). Students’ reflections on the relationship between the past and their lives, families, and communities—a type of integrative learning—often improves student engagement (Bischof, 2015; Lyons, 2007). At a deeper level, learning historical thinking also promotes the forming of metacognitive analytical skills that encourage students to connect academic learning to the prospects and demands of their lives, leading them to the discovery and development of problem solving and decision-making processes adaptable to the ever changing realities of their lives (Sternberg, 1985, 2012).

Bass (2012) has argued that “ePortfolios can be powerful environments that facilitate or intensify the effect of high-impact practices” (p. 30). Similarly, our experience, along with the small body of scholarship on ePortfolio in history courses, suggests that ePortfolio use can facilitate or intensify the reflection, metacognition, and integrative learning that is a critical step in developing the ability to analyze sources, ask historical questions, and craft arguments, as students move past the idea that history means only memorizing and repeating facts. The assistance ePortfolio provides is important, as this analytical progression challenges many students. As Calder (2006) explained, “questioning is an extraordinarily difficult skill for most students, probably because for their whole lives teachers and textbooks have posed the questions for them” (p. 1364). Penny Light (2005) documented her use of ePortfolio in her history classes in an early Making Connections report, noting that “the ePortfolio helps students to develop and demonstrate competencies for ‘doing history’ (critical thinking and analysis) over the course of the semester” (para. 2). More recently, Jordine (2015) analyzed her experience using ePortfolio for students to create exhibits about the Holocaust, noting that ePortfolio fit well with her commitment to integrative learning and a student-centered focus. Jordine concluded, “the degree to which students had to engage actively in thinking while creating their exhibit was definitely much greater than in previous semesters,” adding that “the project required students to acquire or improve their integrated learning skills, and their level of proficiency could be measured by evaluating their final exhibit in ePortfolio” (p. 20). Bass and Eynon (2009) examined the Visible Knowledge Project (VKP), which from 2000 through 2005 supported research by history and cultural studies faculty into the use of Web 2.0 technologies in teaching and learning. While the project was not specifically focused on ePortfolio, Bass and Eynon noted that the VKP projects indicated the importance of embodied and socially situated learning, adding that ePortfolios combined both of these powerful elements. So, while history faculty can, of course, introduce active learning, reflection, metacognition, and integrative learning into their courses without ePortfolios, the increased visibility and the sense of authorship and ownership ePortfolios provide can be powerful tools in the history professors’ difficult but important job of introducing and developing historical thinking.

**BCC Demographics**

While our analysis of the integration of ePortfolios in history courses is relevant to a wide spectrum of academic environments, a desire to improve retention and passing rates and develop students’ academic skills in the challenging environment of BCC has driven professors’ adoption of ePortfolio. The school serves a student body that is motivated and intelligent, but often underprepared, both academically and in terms of college skills like studying and time management. Approximately 90% of BCC first semester students fail to place at the college level in at least one of the required reading, writing, or math assessment tests given to all incoming CUNY students, and a quarter fail all three. Of the students who entered in 2010, only 23% had earned an Associate degree by 2015 (although that number does not include students who transferred). Of the students who entered in Fall 2014, only 58% were still enrolled the following year (CUNY Office of Institutional Research, 2016). History, a reading and writing-intensive discipline, has posed a particular challenge to students at BCC, with average pass rates for the core courses sinking below 60% some semesters. A desire to address these troubling statistics has shaped the evolution of the BCC ePortfolio Program generally, and the use of ePortfolio in history courses specifically.

**ePortfolio at BCC**

While historians often have a reputation for resisting both pedagogical scholarship and technological innovations, History Department faculty members at BCC have led the campus in introducing technology into the classroom. In 2003, Howard Wach, then in the BCC History Department, designed the school’s first online teaching training seminar. In 2009, Wach joined with Jordi Getman-Eraso, also in the History Department, to create the BCC ePortfolio Program, which Getman-Eraso currently coordinates. As of May 2016, 4,111 currently enrolled students have
ePortfolio accounts, and since the program’s inception, 2,564 BCC graduates used ePortfolios in at least one class. In addition, 284 faculty and staff have ePortfolio accounts. To date, 14,248 ePortfolios have been created, 13,055 by students and 1,193 by faculty.

As with the school’s approach to online teaching, the ePortfolio Program stresses introducing technology not as an end in itself, but as a tool to be used in the service of integrating larger learning objectives (Wach, 2007; Wach, Broughton, & Powers, 2011). Faculty development opportunities encourage professors to employ ePortfolios in ways that help students comprehend connections between their personal and academic lives and their work at BCC and their future professional selves. The overarching goal is to engage students in reflective metacognitive learning that develops a strong sense of authorship and ownership over their work, empowering them to become self-directed learners. While encouraging these broader pedagogical aims, faculty also design ePortfolio assignments specific to the academic disciplines they teach. The parallel integration of disciplinary thought and ePortfolio learning pedagogies have allowed BCC faculty to use ePortfolios in ways that encourage student engagement and deep learning, while introducing students to threshold concepts for their disciplines (Meyer & Land, 2005).

Data collected through BCC’s Office of Institutional Research and Planning suggests ePortfolios have had a significant effect on student success and retention. In the Fall 2015 semester, students in ePortfolio classes passed at 81%, as opposed to 72% of students in non-ePortfolio sections; 85% enrolled for the following semester, as opposed to 76% in the non-ePortfolio sections (BCC Office of Institutional Research). ePortfolio, as a vehicle for integrative learning, has also been an important part of the successful implementation of BCC’s First Year Seminar, introduced in 2012 (Karp, Raufman, Efthimiou, & Ritze, 2015). Of course, correlation does not equal causation, and there may be other factors at work in these courses, including that faculty who find meaningful uses for ePortfolios may be more interested in exploring effective pedagogies. Still, these results track with the cautious optimism that Eynon et al. (2014) cited on the campuses involved with the Connect to Learning ePortfolio initiative, particularly at community colleges, and provided incentive to continue to develop the program and go forward with further study of its effectiveness.

The History Department has been at the forefront of the school’s implementation of ePortfolios and the integration of ePortfolios into online and hybrid courses. Ten of fifteen full-time department members have participated in the BCC ePortfolio Program’s two-semester faculty development seminar designed to develop the pedagogical strategies to successfully integrate ePortfolios into their courses. The initial decision to integrate ePortfolios was driven at least in part by the traditionally low passing rates in history courses at BCC. The integration of ePortfolios into history courses were part of a larger sea-change in the department, moving away from traditional history teaching approaches that focused on coverage of a wide swath of historical time, lectures, and tests based on memorization of facts, toward student learning-centered pedagogical approaches that underline the development of metacognitive critical thinking skills and a deeper understanding of the epistemological foundations of the discipline of history.

History faculty incorporate ePortfolios in a variety of ways, including having students create local history projects, online exhibits, and primary source collections. The department has also used ePortfolios in the creation of open educational resources, such as primary source readers that aim to not only save students money but also allow for a targeted collection of resources specifically tailored to course student learning objectives. There is a commitment to having students reflect on their own learning, particularly in terms of their growing awareness of how history is written, their own historical arguments, how historical events influence their lives, and their place in the world. This transformation in pedagogical approach has over the last three years led to significant improvements in pass rates for HIS 10, the Modern World History survey (up from 56% to 67%) and bumped up the pass rates for HIS 20, The American Nation (up from 68% to 74%), even as HIS 10 was removed as a prerequisite due to CUNY-wide curricular changes.

Conversations

Digication introduced the Conversations feature in beta form in 2013. It allows users to highlight text directly on any ePortfolio page and comment on it, and other members of the ePortfolio community to respond to the comments, thereby engaging in an online “conversation” about the text. It was designed to encourage collaboration and social engagement, as well as to allow professors to comment on student work. While not developed specifically with history classes in mind, the group analysis the feature makes possible fits remarkably well with recommendations from the scholarship of teaching and learning history, including the importance of active learning and document analysis as critical steps to developing historical thinking (Booth & Hyland, 2000; Wineburg, 2001; Grim, Pace, & Shopkow, 2004).

Getman-Eraso and Culkin an Associate Professor of History who was part of the first ePortfolio faculty development seminar, have made the Conversations
feature a critical element of document analysis in their hybrid courses since it was introduced in 2013. Getman-Eraso used the feature in Modern World History (HIS 10) and Culkin used it in The American Nation (HIS 20). While teaching different courses and with some differences in implementation, Getman-Eraso and Culkin both considered document analysis the foundation of history education, a way to introduce historical thinking, encourage student participation, and develop critical thinking skills. Given their emphasis on student engagement and participation, both wanted to find ways to replicate the “interaction of the physical classroom in an online environment” (Stern, 2015, p. 485). Each found the discussion boards in Blackboard frustrating as a way to introduce and measure student participation, as that forum does not encourage deep analysis of the document and conversation in the same way a face-to-face conversation does. Students will often identify a specific quote from a document, and discuss it intelligently, but the technology’s focus on individual posts obscures a sense of the larger document and the larger conversation.

The Conversations interface comes much closer to replicating the face-to-face experience of group work, and, in some ways, improves on the in-class experience. All students must participate in order to earn credit, and students who are uncomfortable speaking in the physical classroom are able to contribute to the discussion in a way that may be less stressful and more productive for them. The conversation assignment thus fits well with Bass and Elmendorf’s (2012) definition of social pedagogies “as design approaches for teaching and learning that engage students in authentic tasks that are communication-intensive, where the representation of knowledge for an authentic audience is absolutely central to the construction of knowledge in a course.” This type of social pedagogy is one of the keys Eynon et al. (2014) identify as “improving student learning, engagement, and success” (p. 104) through ePortfolio.

Getman-Eraso first integrated Conversations into his HIS 10 hybrid course in Fall 2013, soon after Digication introduced the feature in beta form. Impressed with student work in Getman-Eraso’s class, Culkin incorporated it into the first hybrid class she taught the following semester. Getman-Eraso and Culkin used Conversations in similar ways. Each week students together analyze a primary document relevant to the topic covered and material addressed in the face-to-face session by highlighting and commenting on a section of text they consider relevant. They read and could then respond to other students’ posted comments, thereby engaging in an analytic conversation about the primary source, the author’s intended meaning(s), and its larger historical significance. Unlike discussion boards in learning management systems, with Conversations the selected text, all comments, and responses are visible at the same time on the same page, next to the original document text, making the experience more intuitive and aesthetically logical. It facilitates drawing analytic connections and establishing a historical context not only between separate highlighted sections of text, but with the larger document as a whole. This “crucial bottleneck of learning” (Grim et al., 2004, p. 57) encourages students to become active participants in the identification and deployment of evidence as part of the evaluation of and engagement with larger historical narratives. In so doing, students collaboratively contribute to the historical analysis of the source, empowering them to gain confidence and a sense of interpretative authority. In a very real sense, they become historians. As Getman-Eraso wrote in the instructions for the assignment,

Each week you will engage in collective analysis of primary documents, the center piece of historical interpretation. This is important not only for those wanting to become professional historians, but for anyone wanting to better understand not only our historical background, but, perhaps more importantly, the use of words to influence how we think as individuals and as a society. (Getman-Eraso, 2015, para. 1)

In Getman-Eraso’s classes, the primary source analysis is an integral step of a weekly four-step scaffolded learning process aimed at replicating the epistemological approach used by historians. Short introductory online lectures and textbook readings contextualizing the historical period and the major debates of the time preface the tackling of the primary source analysis using Conversations. The collaborative peer-to-peer interpretations of the primary source are intended to contribute a deeper comprehension of the author’s intentions and use of language to influence those debates. Faculty contributions are limited to directing students to higher level questions of historical analysis. Students then individually write a reflective essay using the lessons learned from the group text analysis to cogently address that topic’s larger debates. The resulting essays reflect a more mature understanding of the historical debates and encourage a deeper personal engagement with the history the students are learning, helping them gain a place and sense of responsibility in the globalized world in which they live. The weekly essays build up to a final project that requires students to define critically the concept of globalization, both historically and in present-day society, and asks them to identify their place in a globalized society.
While Getman-Eraso focuses on global citizenship, in her HIS 20 course Culkin focuses on the theme “history is more than a textbook,” encouraging students to understand that history is an interpretation of events, not a repetition of facts. Throughout the semester, students analyze the ways in which historical actors use events in American history, such as the Revolutionary War, to support vastly different positions at different times. In addition to the Conversations, students write weekly response papers, reflections at the beginning, middle, and end of the semester, and take-home essays for the midterm and finals exams. The midterm and final exams require students to develop an argument about how the authors of three primary documents use American history to support their points. The final exam question is:

Write an essay in which you develop a thesis to answer the following question: How do Franklin D. Roosevelt, in his 1st inauguration speech, Ronald Reagan, in his 2nd inauguration speech, and Barack Obama, in his 2nd inauguration speech, use American history and American ideals, such as freedom, liberty, and rights, to support their vision of what direction they want to take the country and what they want to accomplish during their administration. Support your thesis with evidence from the text and your analysis of that evidence. (Culkin, 2016, para. 2)

Learning Outcomes Assessment

In assessing the Conversations assignments, the authors looked at not just passing and retention rates, but the development of critical thinking skills and comprehension of the discipline of history over the course of the semester, as measured through an evaluation of the Conversations-based document analysis at the beginning, middle, and end of the semester. In addition, both authors assessed larger related assignments completed at the middle and end of the semester to see how students were able to apply the skills and knowledge they gained from using Conversations in a broader, more contextual dimension. For the assessment, the authors utilized a rubric adopted by the History Department in Fall 2015 semester for department-wide assessment of HIS 10, the core history course that all Liberal Arts majors are required to take at BCC (Table 1). The department designed the rubric to assess the larger student learning outcome (SLO) “Identify and apply the fundamental concepts and methods of the discipline of history,” which the faculty articulated for HIS 10 as part of a CUNY-wide curriculum reform. The rubric for the SLO includes two evaluative sub-outcomes. The first assesses students’ ability to use and analyze historical sources (sub-outcome A), and the second, their ability to demonstrate an understanding of historical events, ideas, and movements (sub-outcome B). While HIS 20 does not yet use the specific rubric, the student learning outcome and criteria fit well with Culkin’s learning outcomes for the course, as well as the general HIS 20 learning outcomes.

Norming for each of the sub-outcomes measured with the rubric was carried out prior to the assessment and included a discussion about the expected standards for each assignment, as well as for the overall course. The process was facilitated by the similitude in both authors’ approach and expectations for the Conversations assignments. Even so, an attempt was made to parallel as
closely as possible the norming carried out for department-wide course assessments of both HIS 10 and HIS 20. What proved somewhat more difficult was the norming for the evaluation of midterm and final projects, as they varied more significantly in form between the HIS 10 and HIS 20 courses. That said, the use of the same rubric and sub-outcomes for these extender assignments mostly kept the authors’ evaluative variance to within one step on the standards scale.

Assessment Results

HIS 10

The assessment of Getman-Eraso’s HIS 10 included four sections from Fall 2013 to Spring 2015, with a total of 95 students. The evaluation of student learning sub-outcomes A and B in the HIS 10 primary-source analysis Conversations showed a marked progression toward analytical mastery for a large majority of students. See Figures 1 and 2 for data related to sub-outcomes A and B, respectively in HIS 10. For sub-outcome A analysis of primary source), the percentage of students meeting or exceeding the standard increased from 54% of students on the first conversation at the beginning of the semester (45% met, 9% exceeded) to 91% on the third and last conversation at the end of the semester (49% met, 42% exceeded). For sub-outcome B (application to historical themes, ideas, and movements), the trend was similar. On the first conversation, 49% of students met or exceeded the standard (41% met, 8% exceeded) and on the third and last conversation, 93% met or exceeded the standard (48% met, 45% exceeded). The increase from the first to the third conversation in the percentage of students meeting the standard was positive, but not significant (4% and 7% increase for sub-outcomes A and B, respectively). There was, however, a significant increase in both outcomes of students exceeding the standard (33% and 37% increase for sub-outcomes A and B, respectively), which is diametrically opposed to the decrease of students approaching the standard (30% and 37% decrease for sub-outcomes A and B, respectively).

The impact on the midterm and final projects showed a similar, though not as pronounced positive progression. For sub-outcome A, there was an increase of 10% (67% to 77%) of students meeting or exceeding the standard. Sub-outcome B showed a moderately higher increase of 14% (62% to 76%), perhaps related to the broader thematic learning objectives of the final project on globalization.
Figure 2
*HIS 10 Sub-Outcome B: Historical Themes*

![Bar chart showing historical themes outcomes for Conv 1, Conv 2, Conv 3, MidTerm Project, and Final Project. The chart includes categories for Exceeds, Meets, Approaches, and Doesn't Meet.]

Figure 3
*HIS 10 Passing and Dropping Rates*

![Line chart showing passing and dropping rates for Fall 2013, Spring 2014, Fall 2014, and Spring 2015. The chart includes lines for College Wide Pass, HIS 10 Pass, Conversations HIS 10 Pass, Online HIS 10 Pass, Conversations HIS 10 Withdraw, and Online HIS 10 Withdraw.]

The dramatic increase in student learning was also reflected in the passing and retention rates (Figure 3). The Conversations-integrated HIS 10 courses evidenced an increase from 73% to 86% passing in the four semesters between Fall 2013 and Spring 2015. In the same period, the departmental passing rate for HIS 10 decreased from 71% to 64%. More significant was the comparison with other online courses (hybrid and asynchronous), which declined from 77% to 53% passing.

The trend continued when looking at retention rates (Figure 3). The Conversations-integrated HIS 10 courses saw a decline in drop rates, from 9% to 6%, while drop rates in other online HIS 10 courses increased from 20% to 36%. It seems logical to draw a connection between the student engagement and growing sense of proficiency encouraged by the weekly conversations and the higher passing and lower drop rates.

Although the assessment results for HIS 10 proved quite satisfactory, there was room for improvement in specific areas. The prompting used to introduce students to the concept of online textual analysis was somewhat unclear, leading to some student frustration with not only using a new technology, but also the assignments’ basic concepts and expectations. This issue was addressed by editing the prompts to include more detailed and logical instructions on the use of the Conversations feature in Digication and by adding examples (with accompanying screenshots) of model analytical comments. Even though not yet assessed quantitatively, the prompting change has positively affected the student on-boarding period for the use of Conversations.

Perhaps more important of an issue was students’ ability to connect conceptually the course’s low-stakes and high-stakes assignments, limiting the broader applicability of the analytical approaches developed by the Conversations assignments. This has led to the development of more clearly identified conceptual threads linking reflective thinking used in the low-stakes Conversations primary-source assignments with the bigger picture thinking expected in the midterm and final projects.

HIS 20

The assessment of HIS 20 encompassed three sections, one in each semester from Spring 2014 to Spring 2015, which enrolled a combination of 58 students. The data from the Conversations assignments indicates that students developed their ability to analyze documents and understand historical events. See Figures 4 and 5 for data related to sub-outcomes A and B, respectively in HIS 20. In the earliest conversation, 66% of students met or exceeded the standard for sub-outcome A (and 72% met or exceeded the standard for sub-outcome B. At mid-semester, these numbers inched up: 75% were meeting or exceeding the standard for sub-outcome A, and 80% met or exceeded the standard for sub-outcome B. At the end of the semester, 90% met or exceeded the standard for sub-outcome A, and 70% met or exceeded the standard for sub-outcome B. And in the second half of the semester, there was a significant movement from meeting to exceeding the standard, suggesting that students’ capacity for deep thinking expanded; from the mid-semester to the final Conversation, the exceeding standard for sub-outcome A jumped from 9% to 34% and for sub-outcome B from 8% to 34%.

The numbers for the final exam were not as promising, but they indicated progress. The final essay asked students to apply the analytical skills they had developed through the Conversations. Students often stumble when moving from a low-stakes writing assignment, such as the Conversations, to more formal, higher stakes assignment, such as the exam essay. This difficulty was indicated in the assessment, as only 60% met or exceeded the standard for sub-outcome A, and 61% met or exceeded the standard for sub-outcome B, significantly lower than student performance on the end-of-the semester conversation. That said, the final represented progress compared to the midterm, which required students to write a similar essay. Even though they could turn in a draft for feedback before turning in the midterm, which was not an option for the final, student performance improved in the majority of the categories between the two exams. Students struggled more with sub-outcome B, their ability to demonstrate an understanding of historical events, ideas and movements, in these high-stake writing assignments, with the number exceeding the standard falling from 22% to 13% between the midterm and final.

To address the differences between the assessment results of the Conversations and the exams, Culkin plans to develop activities that draw on the scholarship of Writing Across the Curriculum in community colleges and history courses to help students apply the skills and ways of thinking they develop in the primary source analysis to formal essays (Akkaraju, 2015; Elbow & Sorcinelli, 2005; Murphree, 2014; Quintana & Zajkowski, 2014). These activities will include low-stakes ePortfolio posts that ask students to reflect on what they have learned from the document analysis about using evidence to support an essay thesis before the midterm and the final. Culkin will also have students brainstorm about the evidence in the documents used in the exams, through in-class writing and small group discussions, early in the essay process. These steps may make more visible to the students the relationship between the different kinds of assignments and help them apply the high-level thinking done in the document analysis to the high-stakes essay writing.

As with HIS 10, student passing rates were notably higher in the Conversations-integrated HIS 20 sections when compared with other HIS 20 online sections.
Figure 4
HIS 20 Sub-Outcome A: Historical Sources

Figure 5
HIS 20 Sub-Outcome B: Historical Themes
offered at BCC (Figure 6). All HIS 20 rates dipped significantly in Fall 2014, as the full impact of the curricular changes that resulted in less-prepared students enrolling in the course was felt. However, Culkin’s HIS 20 hybrid rates rebounded more dramatically the next semester, coming in at over 10% higher than other HIS 20 sections in Fall 2015 and almost 10% higher than general college passing rates.

**In Students’ Words**

The assessment data tells part of the story, but the reflections both Getman-Eraso and Culkin have students write at the end of the semester illustrate students’ engagement with the study of history and how it influences their sense of themselves as students and their place in the world. This type of reflection and engagement, of course, is at the heart of ePortfolio’s potential. It may be particularly important at community colleges, where many students believe in the importance of a degree, but do not necessarily comprehend the importance of what they learn to earn that degree. As Bellafante (2014) wrote in a profile of professors at LaGuardia Community College, another CUNY school, “One enormous challenge for community college instructors is that many students arrive with the notion that a college education is essential, but remain unconvinced that what they will learn during the course of their studies is equally so.” The use of ePortfolios in history courses can help students understand the relationship between their own lives and historical events, which can be a powerful step in student engagement.

The applicability of the Modern World History course’s (HIS 10) themes came across in students’ end of semester reflections on their academic learning and its impact on their notions of the world in which they live. Student comments ranged from the practical (e.g., “Our weekly reading and writing assignments helped me to organize my thoughts in preparation for my final project”) to the more affective; for instance,

The wonderful observations provided by my classmates has [sic] allowed me to move onward with my belief that there are no strict interpretations of good and evil, as heinous acts and atrocities have unfortunately been committed by almost every nation in the name of peace and prosperity, leading to conquest and anguish.
The notion of a cognitive shift was common among most students in the course. As one student noted, “class was ‘an eye opening’ and something I had missed in my life.” The approach of the course and its break with traditional notions of instruction was in many students’ thoughts:

My first day in the History 10 class my thoughts were that it was going to be a regular class; where the professor lectures, I memorize a little here and there, and then pass the class to move on to the next semester but it certainly did not happen that way. I did not expect that so much concentration and discipline were needed for a half on-line course. Now I come to realize that purpose of this intense course has been that students understand and interpret history fully.

The broader impact of the learning experience also surfaced. The comment “I think after this semester I have a deeper understanding of history, instead of it being about big names and big dates,” is representative of many students’ newfound understanding of the discipline of history.

Perhaps more significantly, many students were empowered by applying what they learned in the course to their notions of present-day society, established mores, and their ability to influence its future. In one student’s words, “In this course I learned more than History. I learned tolerance, persistence, and respect; qualities that are much needed in the present days.” Another one commented,

Taking a page out of what we learned in class I feel too many people in general have a culture of being raised to feel superior. History tells us that that’s not a good idea to put yourself over anyone else and try to make them inferior ... Instead of trying to be #1 people should try and learn how to work together. Be an individual but at the same time try to learn as much as you can from the next person so in turn that makes you a better people.

In Culkin’s American History course, many students noted the power of learning about historic injustices and social justice movements, not surprising given the demographics of the school and the course’s emphasis on these movements. One student wrote,

Being of African descent I also learnt the bitter truth of my ancestors’ past and realized yes we did suffer, yes we are still suffering from racism, but as a people we have achieved a lot we went from being poorly taken cared of slaves to being doctors, lawyers, teachers, military personnel [sic], politicians and even a president ... you have to see it because of the fight, the struggle, the sweat, the tears that is what built America, honestly that is what built you.

Another noted,

Studying history for me definitely helped shape my understanding of history in today’s world. Being a Puerto Rican male and openly gay has really inspired me to learn everything I can about history—that will better educate me on the constant struggle I have to go through.

As much of as the assessment statistics, students’ ability and willingness to articulate a connection to the history they have studied indicates deep learning and a commitment to future interest in the discipline, both inside and outside of the classroom.

Final Thoughts

As educational environments become increasingly non-traditional, where more and more students find long-established teaching approaches antiquated, foreign, and, most notably, inaccessible, it is our responsibility as educators to develop intuitive, adaptable, and engaging models of learning that engage students in the context of the realities of the world in which they live. Rather than fall down the rabbit hole of labeling any innovative teaching approach as challenging disciplinary standards, a growing number of faculty who think creatively are realizing the educational advantages afforded by the multiple interfacing and aesthetic dimensions that can be integrated into the pedagogical adaptation of new technological tools. As has been often argued, technology in and of itself does not engender meaningful improvements in learning experiences. However, the alignment of the specific educational aims of academic disciplines with the functionality offered by software platforms has the potential to produce very positive learning outcomes.

The aim in redesigning the HIS 10 and 20 courses has been to integrate the pedagogical rethinking made possible by the advent of the new ePortfolio Conversations feature in Digication. The authors have sought to engage students with a pedagogical approach which blended active learning, reflection, and integrative learning in the hopes of helping them learn the “secrets of the trade” and become, in some dimension, historians, even if that is not their major (as is the case with a great majority of them). At a broader level, the authors aspire to empower students by developing their metacognitive learning skills, so that they can develop the interpretational aptitude necessary
to approach any conceptual obstacle, whether in the realm of academics or of their real world experiences.

While the authors have focused on the use of Conversations in history courses, close reading of texts is at the heart of most disciplines in the humanities and social sciences, which suggests that professors could integrate the technology into a range of courses. It is easy to imagine, for instance, an assignment structured around a collaborative analysis of a poem in an English course. The Conversations feature also holds promise to help students struggling with college-level reading. Melissa Cross, an English professor at BCC, has already adopted the technology. Before class, students read an assigned article and used the commenting feature to define words they do not know; they are then better prepared to discuss the work in class and reflect on their experience of reading the article on their ePortfolios. This type of assignment could work not only in the humanities, but any course that requires students to do intensive reading outside of class. While Digication’s Conversations feature has made integrating textual analysis into class assignments wonderfully simple, professors could surely adopt other platforms for similar use. Google Docs, for instance, allows for multiple people to insert in-line comments on the same document, and teachers have begun to adopt it in their courses, for collaborative writing and peer review, as well document analysis (Edwards, 2011; Moran, 2010).

The assessment of HIS 10 and HIS 20 student learning outcomes showed a significant increase in discipline specific analytical skills, not only in the weekly interpretation of primary sources, but also in larger assignments which integrated said analytical skills. Statistically, students in both courses demonstrated a notable increase in their ability to read closely primary source documents, identifying and interpreting the use of specific language, its intended meaning, and its impact on the events of the historical moment. The peer-sharing nature of the Conversations interface contributes an added sense of visibility, audience and social dimension to the students’ analytical comments, something that would not be possible in a traditional two-way exchange with a faculty member or even in a physical classroom. In addition, the interpretative skills students acquire from analyzing primary sources through group conversations impacts positively their ability to develop thoughtful and reasonable arguments in larger high stakes essay assignments that require broader contextual thinking. The statistical numbers are supported by student reflections, which indicate an intellectual awakening for many students, a crossing of an interpretative threshold of their notions of the discipline of history, its epistemological functions and its broader real life application.

References


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Navigating Multiple ePortfolios: Lessons Learned From a Capstone Seminar

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ePortfolios are a growing trend in higher education, implemented by an increasing number of curricular and co-curricular programs. Given the de-centralized nature of many colleges and universities, it is inevitable that faculty requiring ePortfolios, especially as capstone experiences, will engage with students who have completed one or more ePortfolios, alongside others for whom this will be a new experience. Drawing on twelve sections of a senior capstone over two academic years (2014-2016) that included ePortfolios by over two-hundred students, we present a case study of our learning and pose five strategies to help faculty and students navigate across multiple ePortfolios.

ePortfolio engagement is a growing trend in higher education, implemented by an increasing number of curricular and co-curricular programs. As of 2013, more than 50% of U.S. colleges and universities now offer some form of ePortfolio experience (Dahlstrom, Walker, & Dzuiban, 2013). For example, in our own institution, a major public university in the Midwest, a recent campus snapshot identifies over 4,500 ePortfolio creators in 15 schools and colleges on at least 10 distinct platforms (Luke, 2013). According to this review of the campus, there is a wide variation in terms of quality, content, and approach. The growth and adaptation of ePortfolios is not surprising, given the range of scholarship that demonstrates the importance of ePortfolios as critical tools for reflection and for integration of learning across settings (e.g., Clark & Enyon, 2009; Enyon, Gambino, & Török, 2014; Peet et. al., 2011; Ring & Ramirez, 2012).

Considering the widespread adoption of ePortfolios in campus programs, however, it is only inevitable that students are exposed to multiple ePortfolio experiences during their time on campus. While in some cases, ePortfolios are uniquely created for a specific experience or program, redundancy can create tension and frustration for students. Thus, as ePortfolios continue to emerge and proliferate, strategies are needed within classrooms and co-curricular programs to help students navigate across multiple ePortfolios. To date, there is little evidence of strategies that support instructor and student navigation of multiple ePortfolios, strengthen meta-reflection across experiences, and disrupt repetitive, “not this again,” learning environments.

In this teaching note, we showcase lessons learned working with and across multiple ePortfolios that emerged within a capstone class. Drawing on 12 sections of a senior capstone over two academic years (2014-2016) that included ePortfolios by over 200 students, we present a case study of our learning and develop concepts for discussion amongst scholars of ePortfolios. Although not all of the students came in with multiple ePortfolios, over 30% of the students did; and thus, as instructors, we were navigating between students with multiple exposures and students with no exposures to ePortfolios while trying to create a capstone that engaged all students in reflection about their experiences in a social justice minor. This paper explores the instructional strategies we used to navigate multiple ePortfolios, using student quotes from ePortfolios and final reflections to illustrate our learnings. Our strategies reflect emerging best practices within the literature, and our intent is to share how we have employed these strategies in dealing with our capstone course (Buyarski & Landis, 2014; De Santis & Serafini, 2015; Enyon, et. al, 2014; Nguyen, 2013).

ePortfolios in a Social Justice Minor

Since 2010, the School of Social Work at our University has offered an interdisciplinary undergraduate minor in community action and social change. The minor draws on an interdisciplinary set of courses to help students develop the skills for action and change-orientated engagement in creating a more just and equitable society. The goals of the minor are to provide undergraduate students with opportunities to: (a) examine community action and social change concepts using a multidisciplinary framework; (b) address community action and social change efforts in multilingual and multicultural communities; (c) integrate, using a multidisciplinary framework, social justice values into the community action and social change processes; and (d) engage in service-learning opportunities to promote community action or social change initiatives.

To date, the minor has attracted hundreds of students who are interested in exploring community change. Students in the minor are required to take classes that expose them to the context of community change, the skills for working in diverse settings, and engagement in actual community change work. In addition, all students take a foundation class and a capstone course (for more information about the minor,
see Richards-Schuster, Ruffolo, & Nicoll, 2015). In the 2015-2016 school year, the minor included almost 300 students studying over 50 majors and representing eight schools and colleges within the University.

The capstone is a one-credit course taken during the student’s final year. Ideally, the students take the course after all other minor requirements are completed and in their final semester before graduation. The goal of the course is to provide the space for students to reflect on their experiences in the minor and in social justice activities, articulate their values and skills, build relationships with others graduating from the minor, and help position students for the post-graduation experience. Although the course uses the ePortfolio as the main product for the class, the class also involves whole group discussions and reflection-type activities, with the emphasis less on the technology and more on the ePortfolio as a the framework for integrative learning.

An earlier paper (Richards-Schuster, Ruffolo, Nicoll, Distelrath, & Galura, 2014) reviewed 50 ePortfolios from the first two years of the minor and conducted a thematic analysis to explore student understanding about civic engagement learning. Our research indicated that students did develop an understanding of civic engagement and showcased the potential of ePortfolios for civic engagement learning assessment. This research is consistent with other scholarship that has discussed the importance of ePortfolios for assessing service learning, personal learning, critical reflection, and community engagement (Cambridge, 2010; De Santis & Serafini, 2015; Reynolds & Patton, 2015).

While the early years showed promise for student interest in the ePortfolio process, some challenges emerged as more students enrolled in the capstone course with prior exposure to ePortfolios. Instead of a enjoying a space for reflection and engagement, students became frustrated with the class, seeing it as a redundant experience with other ePortfolios they had done elsewhere or not recognizing the value of the ePortfolio process—and the role of critical reflection—for their future work as social justice activists. End of semester class ratings were low. In 2013, student ratings for the item, “Overall, this was an excellent class,” were 3.75 on a scale from 1 (strongly disagree) to 5 (strongly agree). This was at or below the lowest quartile University-wide that semester. In addition, students’ frustration had an impact on their overall experience in the undergraduate minor program. For example, written reflections at the end of the semester described the course as “pointless,” and one student even considered dropping the minor due to their experience in the capstone course.

There was a critical need to redesign the capstone not only to navigate the multiple ePortfolios but also to help students link their experience with ePortfolios to reflection as a lifelong value. We needed to move from the “not again” understanding of ePortfolios to an approach that acknowledged, appreciated, and valued the role of reflection and ePortfolios as an ongoing process. To do this, we redesigned the course to provide students with creative and innovative approaches to navigate the multiple ePortfolio process.

Exploring Instructional Strategies for Navigating Multiple ePortfolios

This section shares five key strategies: (1) redevelop the curriculum to meet student needs, (2) acknowledge the confusion and frustration of students, (3) encourage students to include the whole of their experience—academic and co-curricular, (4) use the ePortfolio process as a tool for promoting “possible selves,” and (5) use the capstone class to build community and networks for the students. To illustrate the strategies, we drew on quotes from a sample of 239 student ePortfolios and final class reflection papers from 12 sections of a senior capstone over two academic years (2014-2016). These students in this sample were from a range of liberal arts and science majors as well as from professional schools such as engineering and business. The quotes are meant to highlight key ideas and add depth to our lessons learned. We discuss the strategies next.

Redevelop the Curriculum to Meet Student Needs

Although the capstone course began as a standard ePortfolio course, as previously discussed, by 2013-2014 we realized that the course needed to redevelop the curriculum to help meet the challenge of multiple ePortfolios. Initially, this meant reviewing the value of the ePortfolio and seeing what was the core of its purpose. At the core were opportunities to make meaning of students’ experience and to reflect on their learning. From there, we developed ways to frame the curriculum to help students deepen their reflection—whether it was their first ePortfolio or their third ePortfolio.

Starting in 2014, the capstone implemented a three-tiered set of assignments to address the differing levels of experiences of students with ePortfolios. The goal of this innovation was to engage students in meta-reflection across their minor and to strengthen their capacity for reflection, regardless of their prior experience. The three-tiered assignment or options for ePortfolios were standard, pathway, and legacy.

**Standard ePortfolio assignment option.** This assignment followed a more traditional ePortfolio approach, drawing on three artifacts or key learning experiences, and a philosophy statement. In the minor, students’ three artifacts could correspond to the three